MARINE DEPARTMENT REGULATIONS

STANDARD OIL COMPANY
(Incorporated in New Jersey)

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(*Incorporated in New Jersey*)

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PREFACE

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The Regulations published in this book represent the Company's requirements of the seagoing personnel in the operation of the vessels. They are intended, moreover, to serve as a guide for uniform practice leading to efficient and economical operation throughout the entire Fleet.

One copy of this book will be furnished to each Licensed Officer, Steward and Radio Operator upon entering the service of the Company, and will remain in his possession for the duration of such service. This book remains the property of the Company and must be returned when the holder leaves its employ for any reason whatsoever.

Any book lost or not returned will be replaced at the expense of the officer concerned.

STANDARD OIL COMPANY (N. J.)

MARINE DEPARTMENT,

R. L. HAGUE,
MANAGER.

MARINE DEPARTMENT ORGANIZATION CHART

ADMINISTRATION

MANAGER.....

ASST. MGR.,.....

TRAFFIC DIVISION

SUP'T.....

ASST. SUP'T.....

BULK OIL SECTION

CASE OIL SECTION

MISCEL. FR'GHT. SEC.

OPERATIONS DIV.

SUP'T.....

ASST. SUP'T. (SR).....

" " (JR)

PORT CAP'NS & PT. ENG'RS. SEC.

PORT CAP'N.....

" ENG'R.....

OPERATIONS SEC.

CHIEF.....

SHIPS' PERSONNEL SEC

CHIEF.....

SUPPLY SECTION

CHIEF.....

CONS. & REP. DIV.

SUP'T.....

ASST. SUP'T.....

CONSTRUCTION SEC.

REPAIRS SECTION

FINANCE DIVISION

SUP'T.....

ASST. SUP'T.....

CASHIER, PAYMASTER & ASSISTANT CASHIER

INSURANCE SEC.

ACCOUNTING SEC.

STATISTICAL SEC'N.

OFFICE SERVICE SEC.

Chapter I

Marine Department Organization

The Organization Chart

(1) The chart on the foregoing page represents the organization of the Marine Department. The blank lines on this chart should be filled in with the names of the present incumbents in pencil. Ships will be advised by circular letter of current changes in the organization.

The Function and Cognizance of the Manager

(2) The Manager is the head of the Marine Department and has complete authority and control over the activities of all branches of the Department.

The Function and Cognizance of the Assistant Manager

(3) The Assistant Manager acts for the Manager in his absence, and has general cognizance over the operation of the entire Department. He is particularly charged with the approval of all Charter Parties, contracts, legal documents, as well as correspondence and negotiations with Government Departments, foreign subsidiaries, foreign representatives, associations of steamship owners, Chambers of Commerce and similar organizations.

The Function of the Operations Division

(4) The Operations Division is vested with complete responsibility for the physical operation of owned and chartered vessels, and the Superintendent of Operations has, therefore, control over the operation and movement of vessels, including entering, clearing, berthing, towing, lightering, loading, discharging, fueling; the maintenance of performance records and analysis of results shown; the preparation of estimated costs of proposed voyages, the employment and administration of seagoing personnel; the investigation of all accidents or irregularities and enforcement of disciplinary action incident thereto; the purchase, storage and distribution of provisions and stores, and the issuance of all instructions concerning the operation of the Fleet.

The Function of the Construction and Repair Division

(5) The Construction and Repair Division is vested with complete responsibility for the preparation of plans and specifications; the supervision and inspection of new construction; and for the repair of vessels operated by this Company, including survey and inspection necessary for classification and inspection certificates.

The Function of the Traffic Division

(6) The Traffic Division is vested with complete responsibility for the making of freight rates, preparation of charters and contracts, and for the allocation of vessels to the various trades.

The Function of the Finance Division

(7) The Finance Division is vested with complete responsibility for matters pertaining to insurance covering hulls of vessels operated by the Company and cargoes transported; the disbursements, including the audit and settlement of Masters' accounts and the payment of wages and bonus to seafaring personnel and handling Stock Acquisition Plan accounts; accounting; statistics, including estimated costs for actual voyages; office personnel records; and clerical and office service for the Marine Department.

Chapter II

Tank Steamer Organization

Section I—Master

Responsibility and Authority of the Master

(8) The Master is the Manager's direct representative and is responsible for the safety of the vessel, its cargo, equipment and all persons legally on board.

The Master is in supreme command of the vessel and has full authority over its operation, both in port and at sea, including the loading and discharging of cargo.

The Master has full authority over all officers and unlicensed men in the vessel, and his orders must be obeyed in spirit and letter by all persons aboard ship.

If the Master gives the Chief Engineer any order, the execution of which, in the opinion of the Chief Engineer, might result in danger to personnel, machinery or equipment, the Chief Engineer shall explain verbally to the Master the danger of complying with the order. If the Master then insists on the grounds that the order is necessary for the safety of the vessel and/or the personnel, the Master shall so state in writing to the Chief Engineer who shall in turn hand the Master a letter fully setting forth the reasons why, in his opinion, it is unsafe to comply with the order. The Chief Engineer shall then comply with the Master's order.

Nothing in these regulations shall be construed to justify the Master in undue or unnecessary interference in the administration or operation of the Engine Department, or to encourage the Master to disregard the technical advice of the Chief Engineer, except in cases of emergency when the Master is convinced, and is ready to show grounds for a reasonable conviction, that the advice of the Chief Engineer would lead the personnel or the ship into danger.

Master's Supervision Over Property and Regulation of Expenditures

(9) The Master shall exercise general supervision to insure the preservation of the Company's property and to guard against wasteful expenditures and irregular practices.

The Master shall be held personally responsible for any wastage or irregularity, no matter in what Department of the vessel it may occur, if it can be shown that such wastage or irregularity might have been prevented by proper supervision and administration on his part.

Maintenance of Discipline and Contentment of Personnel

(10) The Master is charged with the maintenance of discipline and shall be held responsible for any disorder, irregularity or violation of the law or of these Regulations wherever committed aboard ship that might have been prevented by proper administration and supervision on his part.

The Master shall afford opportunity to any member of the ship's company to lay before him any grievance. The Master shall investigate each complaint impartially and take prompt steps to arrive at an equitable adjustment.

The Management will not make any transfers or assignments on account of personal prejudices or personal disputes between officers. The Master shall, therefore, warn any officer whose attitude toward his shipmates interferes with the contentment of the ship's officers in the performance of their duties, and if such an officer persists in his attitude and conduct the Master shall make a full report of the circumstances to the Manager.

Sanitation and Health of the Crew

(11) The Master shall be responsible that all parts of the vessel and particularly the living quarters, refrigerating spaces and galley spaces are maintained in a strictly sanitary condition.

The Master shall maintain close observation over the health of the crew and shall be responsible for all medical treatments and for the issue of all medicines aboard ship, together with the proper entries in the Medical Log (Form No. S-362) to show the full details of each medical treatment given.

The Master shall have custody of the medicine chest and he shall not leave the vessel without making the medicine chest accessible to the Mate upon whom the duties of Master devolve in his absence.

Navigation Laws, Steamboat Inspection Regulations and U. S. Public Health Service Regulations

(12) It is the duty of the Master to keep himself fully informed of the latest revisions of the United States Navigation Laws, the Rules and Regulations of the U. S. Steamboat Inspection Service and the regulations of the U. S. Public Health Service. The Master is responsible for the application of these laws and regulations throughout all departments of the vessel, except for those provisions of the said laws and regulations for which the Chief Engineer is legally responsible.

Master's Duties Upon Joining a Ship

(13) The Master shall upon joining a ship acquaint himself with the cargo capacity, cargo handling equipment, errors of the compasses, speed, fuel consumption, bunker capacity, turning circle, ballast arrangements, safety apparatus and other essential characteristics of the vessel. He shall assure himself that all essential parts of the ship and equipment are in satisfactory condition, and that fuel and water, spare parts, safety apparatus, provisions and stores necessary for the service contemplated are on board.

After having made a complete inspection of the vessel, immediately upon joining a ship, the Master shall prepare and submit to the Manager a written report on the general condition of the vessel and equipment.

Supervision Over Upkeep and Repairs

(14) The Master shall keep himself fully informed at all times of the progress of repair and maintenance work done by ship's personnel under the supervision of the First Mate and Steward. He shall assure himself that such work is properly laid out and efficiently executed in a manner best calculated to maintain the vessel in good condition and reduce deterioration.

The Master is also responsible for the execution of the provisions of Chapter V "Repairs, Alterations and Tank Cleaning for Repairs or Cargo."

Master's Daily Inspection

(15) The Master shall make a daily inspection of the vessel, except when the necessity of his presence on the bridge prevents, and these daily inspections shall be so scheduled that the Master will visit all storerooms, living quarters, refrigeration compartments, washrooms and toilets daily, and all other parts of the ship except the machinery spaces at least once a week.

The Chief Engineer shall be responsible for the proper inspection of the machinery spaces. This regulation shall not, however, be construed to prevent the Master from inspecting the machinery spaces, but whenever possible the Master's inspection shall be made in company with the Chief Engineer.

Reports on Personnel

(16) The Master shall forward a Master's Report on Mates, Engineers and other Members of the Crew for Conduct, Ability and Service (Form No. S-40) whenever articles are signed off, except when a voyage exceeds two months in duration, in which case the form shall be filled out and forwarded at the end of every two months. In preparing this report the Master shall consult with the Chief Engineer as to the marks that should be assigned to the Engine Department personnel.

In addition, the Master shall prepare a Detailed Report of Efficiency, Officers and Petty Officers—Deck Department (Form S-410) and shall cause the Chief Engineer to prepare a Detailed Report of Efficiency, Officers and Petty Officers—Engine Department (Form S-423) at the first of each quarter covering all Officers, the Steward and Machinist and all Petty Officers who have served on the vessel continuously for a period of thirty days or longer. The Master shall be responsible for forwarding these reports promptly to the Manager.

The Company requires the Master and Chief Engineer to so write the foregoing reports that they will fully and truthfully reflect the respective opinions of the Master and Chief Engineer of the officers reported on.

Master's Responsibility for Records, Files and Correspondence

(17) The Master is responsible for the preparation and filing of all records and documents except those for which the Chief Engineer is wholly responsible by provision of these regulations, and he shall exercise particular supervision to assure the accuracy and safe keeping of documents and records relating to the cargo and the ship's business with government agencies. The Master shall also exercise special supervision to assure that all provisions of Chapter VI, "Correspondence, Communication and Ships' Records," are strictly complied with in all departments.

Supervision Over Slop Chest

(18) The Master shall maintain a slop chest in accordance with law and shall supervise the issue of slop chest supplies.

When the Master is assigned to a vessel he shall take over the slop chest then aboard at a fair valuation, except articles considered by him unnecessary for the comfort and convenience of the crew if not required by law.

Explanation of Benefits

(19) The Master shall see that all members of the crew are cognizant of the Annuities and Benefits Plan, the Bonus System, the Stock Acquisition Plan and the Vacation Plan in order that the full benefits which may be derived from service with this Company may be fully understood by all the ship's personnel.

Succession to Authority

(20) In case of the absence or disability of the Master, his duties shall devolve upon the senior Mate aboard in the following order, providing they hold the necessary license:

First Mate
Second Mate
Third Mate

The Master's Responsibility for Safe Navigation

(21) The Master is at all times and under all circumstances responsible for the safe navigation of the vessel, and he shall check the navigational work and the watch stood by his subordinates to assure the accurate fix of the ship's position and the safe maneuvering of the vessel.

The Master and all Mates shall navigate and the resulting positions shall be checked one with another. The Master shall be responsible that all available means are employed to fix the position of the ship at 8 A. M., noon and 8 P. M.

Records of Sights (22) The Master shall keep and cause each Mate to keep a Navigational Work-Book (Form No. S-417).

The Navigational Work-Book shall be a record of all sights and computations used by the officer concerned in fixing the position of the vessel and the Master's Navigational Work-Book shall be retained in the ship's files as a permanent record.

Presence of the Master on the Bridge (23) The Master shall be on the bridge in person when entering or leaving port, when in restricted waters, when in thick weather, when other vessels are in the immediate vicinity or when another vessel is sighted on a course and speed which will cause her to pass within one mile, when it is expected to make a landfall, when the course is altered, and at all other times when the ship is especially liable to danger.

Rules of the Road (24) The Master shall assure himself that all mates are thoroughly familiar with the Inland and International Rules of the Road, and he shall exercise strict supervision to see that the vessel is handled in accordance with the provisions thereof.

Course and Speed (25) The Master shall set all courses well clear of dangers and shall proceed at the maximum speed practicable with due regard to weather and other conditions. Safety must be the first consideration, and speed, while very desirable and important, shall always be considered secondary to safety.

Magnetic Compasses (26) The Master is responsible for the accuracy of the standard magnetic and steering magnetic compasses.

The Master shall require frequent azimuths to be taken to check the accuracy of the compasses, and he shall cause the full data of each azimuth taken to be promptly entered in the Compass Observation Book (Form No. S-251).

If at any time any magnetic compass indicates need of adjustment, the Master shall request the services of a compass adjuster as soon as practicable.

The Master shall keep the latest compass adjuster's certificate on file, and he shall be responsible that the deviation for all headings is accurately kept in the Compass Observation Book and that this book is readily available at all times to the Mate-on-Watch.

If any doubt whatever exists as to the accuracy of the compasses, the Master shall swing ship to determine the compass errors before entering dangerous or restricted waters.

Gyro Compass Equipment

(27) The Master shall designate a Mate to be held responsible for the upkeep and operation of the gyro compass equipment, except the gyro compass turbo generator, up to and including the switchboard. The Master shall assure himself that this Mate is familiar with the manufacturer's instructions for the operation and upkeep of this equipment, and that he complies strictly with the provisions thereof.

The gyro compass repeaters shall be compared with the master compass at the end of each watch. For this purpose the relieving Mate shall stand by the repeaters and the Mate relieved shall stand by the master compass.

The gyro compass repeaters shall be compared with the standard magnetic compass every half hour.

The error of the gyro compass shall be kept in writing in the Compass Observation Book.

Automatic Steering Gear

(28) The automatic steering gear which is installed in some of the vessels is intended only for off-shore use when the vessel is on the high seas, and in no danger of collision or grounding.

The automatic steering gear shall be immediately thrown out when another vessel is sighted which is on a course and speed that will bring her within one mile; it shall also be thrown out whenever the ship is approaching soundings or restricted waters, and whenever the weather sets in thick or visibility is reduced.

Weather Conditions and Hydrographic Information

(29) The Master shall observe weather conditions closely at all times and shall not hesitate to alter course or put into port to avoid heavy weather that might damage the vessel.

The Master shall cause the Radio Operator to obtain all available weather reports and a close study of this information shall be made in connection with local conditions as observed on the vessel in order that the track of approaching storms or dangerous conditions may be plotted aboard ship.

Navigation in Thick Weather

(30) In thick weather, the Master shall use the lead frequently and proceed at a moderate speed in strict accordance with the provisions of the Rules of the Road.

Whenever visibility is reduced by thick weather, the sounding of fog signals shall be commenced immediately and continued until visibility is fully restored.

Use of the Lead

(31) The Master shall cause soundings to be taken with the hand lead or sounding machine when entering or leaving port, in thick weather, in dangerous current, in restricted waters, in the vicinity of shoals, when the position of the vessel is in doubt or at any other time that the lead will offer reasonable additional assurance of the safety of the vessel.

Whenever the position of the ship is subject to reasonable doubt and the soundings indicate a shoaling bottom, the vessel shall be stopped immediately and, if necessary, anchored until the position is definitely determined.

Use of Radio Bearings

(32) The use of radio bearings is strongly recommended to Masters as a supplementary means of navigation in thick weather or when the position of the vessel is in doubt.

In order to familiarize the personnel with the use of radio bearings, one set shall be taken on each voyage when the position of the ship is accurately known and these bearings shall be entered in the Rough Deck Log Book (Form S-132), together with the difference between the position indicated by the radio bearings and the true position of the vessel by navigation.

Use of Submarine Sound Signals

(33) The submarine signal apparatus shall be used as an aid to navigation in checking the position of the vessel when approaching localities at which a submarine bell or oscillator is installed. The apparatus shall be tried out whenever the vessel is in the vicinity of a bell or oscillator, whether or not the weather is thick and the results shall be recorded in the Ship Report of Signal Station (Sub. Sig. Co. Form No. 15).

The Submarine Signal Company from whom this apparatus is leased maintains inspectors at Montreal, Boston, New York, Philadelphia, Norfolk, San Francisco and Seattle. When the vessel is at one of these ports and inspection has not been made of the apparatus during the previous six months, or, if the apparatus is out of order, the Master shall notify the Submarine Signal Company and request that an inspector be sent aboard.

Navigational Equipment

(34) The Master shall require each deck officer to have an accurate sextant and shall also assure himself that the following equipment is on board and properly maintained at all times:

Two reliable chronometers.

Two or more reliable magnetic compasses in compensating binnacles, for which there are accurate deviation tables.

Two azimuth mirrors or circles, for the standard compasses.

Two or more useful tables, azimuth tables, nautical almanacs and practical books on navigation.

Two parallel rulers, two dividers, two navigator's compasses.

A complete portfolio of charts covering the trade in which the vessel is engaged and a set of general charts covering the East and West Coasts of North and South America, Europe and the Mediterranean (corrected up to date).

One International Signal Code Book.

A complete up-to-date file of "Notices to Mariners."

A complete allowance of hand leads and lines accurately marked.

A complete set of Sailing Directions and Coast Pilots.

One deep-sea sounding machine and a sufficient number of glasses in good condition.

Two patent logs, accurately calibrated.

Submarine signalling device, signal flags, radio and other signalling apparatus in good condition.

Two or more deep-sea leads and lines accurately marked.

Two pairs binoculars.

Chart in Custody of the Mate-on-Watch

(35) The Master shall require the chart in use to be readily available to the Mates at all times. The Master shall lay down on this chart the courses to be steered and shall require each Mate to familiarize himself with the courses as laid down on the chart and the position of the ship before relieving the watch, so that it will not be necessary for the Mate-on-Watch to neglect the watch to consult this chart.

The Chronometer

(36) The Second Mate shall wind the chronometers at 8 A. M. daily and report the fact to the Master.

The Master shall cause the chronometers to be compared with routine time signals, when the vessel is in port, and at sea, the chronometer shall be compared with the radio tick as often as available.

There shall be kept in the Chronometer Record Book (Form No. S-418) a daily record showing, for each chronometer, the comparisons as taken, the error on G. M. T. and the rate of the chronometer. This book shall be retained in the ship's permanent files.

Charts and Hydrographic Information

(37) The Master shall obtain the latest weather reports and hydrographic charts and publications before leaving port, and he shall be personally responsible that the charts are corrected in accordance with the latest advices from Hydrographic Office. The Master shall cooperate with the Hydrographic Office by forwarding to them current information and other reports requested by the Government of ship masters.

Pilot and Mooring Master

(38) The Master may take a pilot or mooring master whenever in his judgment such action is necessary or desirable. The presence of a pilot or mooring master, however, in no way relieves the Master of his responsibility for the safety of the ship. The Master shall,

therefore, continue to navigate while a pilot or mooring master is aboard, in order to check the position of the ship, and the Master shall take any necessary action to safeguard the vessel under his command.

The Night Order Book Standing Orders

(39) The Master shall keep a Night Order Book (Form No. S-259) in which, before retiring, he shall write the course, speed, changes of course and/or speed and the time thereof, the characteristics of any light or landfall which may be sighted during the night, and any other information or precaution that may be pertinent and necessary to enable the Mate-on-Watch to safely and accurately navigate the vessel. In addition, the following standing orders shall be posted in the front of the Night Order Book:

1. All Mates shall be on deck at their respective stations when entering or leaving port.

2. A Mate shall be on the bridge at all times when the vessel is under way, and he must not leave the bridge until properly relieved by another Mate or by the Master.

3. The course or speed shall not be altered without orders from the Master, except when necessary to avoid immediate danger. In the event of danger, however, the Mate-on-Watch, in the absence of the Master from the bridge, shall immediately take the necessary steps to prevent accident, changing the course and/or speed as may be necessary. The Master shall then be notified as quickly as possible of the circumstances and of the action taken.

4. If the weather sets in thick due to fog, snow or other causes, fog signals shall be started immediately and the Master shall be notified.

5. The position of the ship shall be verified frequently by cross-bearings or relative bearings and the distance run between, if the vessel is in sight of land or aids to navigation, and if not, by celestial observations, soundings or radio bearings as circumstances may require.

Whenever the position of the vessel is fixed in accordance with these instructions the full data relative to the position shall be entered in the Rough Deck Log Book. (Form No. S-132).

6. The chart by which the ship is being navigated shall be always accessible to the Mate-on-Watch and he shall make himself familiar with the position and the course laid out before relieving the watch.

7. Keep a sharp lookout at all times and do not depend upon the lookout man alone.

A lookout shall not be called upon to perform other duties which will distract his attention while on watch.

One lookout must be stationed in the fore part of the ship, either on the forecastle head, or during heavy weather in the crow's nest, but not abaft the foremast unless the vessel has no crow's nest, or unless it is unsafe to use the crow's nest, in which case the lookout may be stationed on the bridge.

The running lights shall be reported by the lookout at least every half hour.

On a dark night or in thick weather, extra precautions must be taken to assure that the lookouts are awake, and if special conditions, such as a low lying fog demand, an extra man shall be stationed in the crow's nest or on the bridge.

At all times when leaving or entering port, whether by day or by night, a lookout shall be stationed in the fore part of the vessel until the ship is well clear of restricted waters and other vessels. A mate or any other person who might be in the fore part of the vessel, but who is assigned to any other duties whatsoever, does not fulfill this requirement.

8. See that a good course is made and watch the steering closely at all times.

9. The course given is always by Standard Compass unless otherwise stated.

10. Compare the Standard Compass and Steering Compass at least once every hour.

The gyro repeaters shall be checked with the Master Gyro at the end of each watch.

The gyro repeaters shall be checked with the Standard Compass every half hour.

11. If a vessel is sighted which appears to be on a course and speed which may cause it to pass your vessel within one mile, the Master shall be called immediately.

12. Give all vessels a wide berth, and when it is your duty to keep clear, alter course and/or speed at once, and sound the whistle signals prescribed by the International or Inland Rules of the Road, as may be required, so that there may be no doubt on the part of the other vessel as to what you are doing.

13. The Master shall be called whenever it is expected to sight any light, shore mark or other aid to navigation, and if, for any reason, the Master is not on the bridge when such an aid to navigation is sighted, he shall be immediately advised of its bearing and estimated distance.

14. These Standing Orders shall be signed by all Mates to signify that they have read and understand them; in addition, the current Night Orders must be signed by all Mates before relieving.

Seaworthiness (40) The Master shall assure himself that the vessel is seaworthy in all respects before making preparation to get under way. Before leaving port the Master shall obtain advices from each of the Heads of Department as to whether the vessel is adequately stored and provided with fuel and fresh water for the voyage contemplated, with reasonable allowances for unexpected delays, taking into consideration the season of the year and the weather likely to be encountered.

Notification of Heads of Department (41) Whenever possible the Master shall notify the Heads of Department at least twenty-four hours in advance of sailing, in order that they may be prepared for the scheduled departure.

In no case, however, should the Chief Engineer be required to raise steam in a cold boiler in less than ten hours, except when emergency demands.

Clearance Papers, Tugs and Pilot (42) The Master is responsible for obtaining clearance papers, tugs and pilot in ample time for the scheduled departure, and he shall not rely upon any other person to attend to this business.

Securing for Sea (43) Before leaving port the Master shall inspect the vessel to assure himself that all parts of the ship are properly secured for sea.

Tests of Equipment (44) Before leaving port, the Master shall cause the steering gear to be tested in accordance with the provisions of Article No. 243. The Master shall also require the main engines, telegraph, whistle, voice tubes and running lights to be tested one-half hour before getting under way, and a report made to him.

The Master is also responsible that the sounding machines and lead lines are in good order and ready for use before leaving port.

Crew at Stations Upon Leaving Port (45) When heaving up, docking or undocking, the Master shall be responsible that Mates are stationed on the forecastle head and on the poop, unless emergency conditions require other stations, and that the crew are properly stationed to handle lines and tend the windlass.

Fire Precautions Entering or Leaving Port (46) Hatch covers and ullage plugs shall be closed when entering or leaving port and at all other times when there is danger of fire from sparking tug boat funnels or other sources outside the ship.

Notice of Arrival (47) At least twenty-four hours before arrival, the Master shall radio the Agent, stating the day and hour of expected arrival, draft forward and aft, brief summary of repairs required, whether fumigation required, the amount and denomination of

cash needed if the crew are to be paid off, and other requirements not easily obtainable. In preparing the notice of arrival, the Master shall consult the Circular Letter containing information of the port to be entered and comply with any special requirements expressed therein. In the case of arrival on Saturday afternoons, Sundays or holidays, notice of arrival should, if possible, be sent sufficiently in advance to be in the hands of the agent during working hours of the preceding day.

Preparation for Port (48) When arriving in port the Master shall cause necessary preparations to be made in advance, in order that the ship shall not be delayed in docking, connecting hose, handling cargo or transacting ship's business.

Notice of Departure (49) The Master shall have prepared upon arrival a blackboard showing in large characters the hour at which all shore leave is up, and the time the vessel is scheduled to sail. This blackboard shall be conspicuously shown at the gangway before any liberty is granted.

Coming to Anchor (50) Prior to coming to anchor the Master shall cause the ground tackle to be inspected to assure that all is ready for letting go and that both anchors are fitted with suitable anchor buoys.

Immediately the vessel is anchored and swung to her chain, anchor bearings shall be taken and entered in the Deck Order Book (Form No. S-419) so that they may be used by the Mate-in-Charge who shall check the ship's position at frequent intervals and particularly at changes of wind and tide to assure that the vessel is not dragging.

The Fire Line (51) Whenever a vessel is moored to a dock one wire line shall be run as a spring from the windlass to a bollard well aft on the dock, so that the vessel may be warped out into the stream in case of a fire on the dock.

Sea Terminals (52) Before arriving at a sea loading terminal, the Master shall cause all Mates to familiarize themselves with the regulations governing the handling of a vessel which appears in the Circular Letter covering the terminal concerned.

Section II—First Mate

Responsibility and Authority of the First Mate (53) The First Mate is responsible to the Master for the administration and supervision of the Deck Department, and he shall perform these duties in accordance with the general policies and directions of the Master.

The Second and Third Mates shall report to the First Mate who shall assign them to duty both at sea and in port, and these officers shall consider the First Mate's orders effective and binding.

The First Mate shall not, however, have authority to relieve the Mate-on-Watch at sea without the approval of the Master.

Compartments and Equipment Assigned to Deck Department

(54) The Deck Department is responsible for the maintenance and upkeep of the following:

Exterior of the hull.

Masts, booms and rigging.

Funnel and ventilators.

Chartroom (inside and out).

Wheelhouse (inside and out).

The bridge and flying bridge with all apparatus and equipment thereon, except that the Engine Department shall be responsible for the mechanical condition of telegraphs, telephones, voice tubes and steering gear.

All weather decks and the equipment and machinery thereon, except that the Engine Department shall be responsible for the mechanical condition of cargo pumps and deck machinery.

The ground tackle and all mooring lines.

The outside of forward officers' accommodations.

The outside of after officers' accommodations.

The outside of the engine room and boiler room casings and the decks, gratings and skylights above the boiler room and galley.

The exterior of the steering gear house, the docking bridge, and all gear and apparatus thereon, except that the Engine Department shall be responsible for the mechanical condition of telephones, voice tubes and steering gear. The fore and aft runway.

The exterior and interior of the main and forward pump rooms, except that the Engine Department is responsible for the mechanical condition of the pumps.

All cargo tanks, cofferdams and the foredeep and forepeak tanks, together with all cargo lines and valves, except, however, that the Engine Department is responsible for the mechanical condition of the cargo valves and lines.

The sailors' forecastle, washroom and toilet, the passageways in the way of quarters of petty officers, sailors, firemen and wipers for scaling and painting out.

All other compartments below weather decks, except the interior of machinery spaces, Steward's storerooms, compartments used by the Steward's Department as butcher shop and issuing room, living quarters hereinafter assigned to the Steward's Department and Engine Department.

All ladders and stairways contained within or leading into any space assigned to the Deck Department.

Officers On Duty (55) The following schedule represents the Company's minimum requirements for the duty to be taken by deck officers under the various circumstances outlined. Nothing in these regulations, however, shall limit the Master in requiring more, or all, officers to be aboard when he considers their presence necessary:

When Anchored in the Stream. The Master or First Mate and one other Mate shall be aboard. Any part of this duty may be taken by a Relief Deck Officer of the same or higher rating.

When Loading or Discharging Cargo. Two Mates or a Pumpman and a Mate shall be aboard. If the Pumpman is aboard a Relief Mate may take the duty. If the Pumpman is not aboard one of the two Mates must be of the ship's complement.

When Topping Off or Draining Tanks. The First Mate and Pumpman shall be aboard.

When Under Repairs. The First Mate shall be aboard during the day and the Second and Third Mates shall take the night watches except that the duty at night may be taken by a Relief Mate.

The First Mate's Responsibility for Expenditures and Supervision Over Stores (56) The First Mate is responsible to the Master for the economical operation of the Deck Department, and shall personally prepare requisitions, supervise the issue of stores and regulate the use and consumption of material to assure economy and prevent irregular practices.

The First Mate shall be directly in charge of the Deck Department storeroom, and shall keep the Deck Department Storeroom Account Book (Form No. S-411) which shall be accurately entered to show at all times the actual quantity of each item of stores on hand.

The First Mate shall pay particular attention to the stowage of stores to assure that they are neatly arranged in the manner best calculated for preservation, and plainly labeled in order that any item may be located without delay.

The First Mate shall exercise particular attention to guard against wasteful requisitions and to assure that all requisitions are prepared in accordance with the provisions of the Combined Stock and Specification Book (Form No. M-492).

Maintenance of Discipline and Reports of Misconduct

(57) All Mates are responsible for the maintenance of discipline among the personnel of the Deck Department, and they shall be alert at all times to assure that the Company's property is protected against irregular or wasteful practices on the part of any member of the crew. The First Mate shall make prompt report to the Master of any breach of discipline on the part of any member of the Deck Department.

Duty of the First Mate Upon Joining Ship

(58) Upon joining a ship the First Mate shall make a thorough inspection of the Deck Department and report the results in detail to the Master. He shall make a personal inventory of the Deck Department storerooms and check the quantities of material on hand against the record in the Deck Department Storeroom Account Book (Form No. S-411), noting any discrepancies in a written report to the Master.

Inspections by the First Mate

(59) The First Mate shall make a daily inspection of the Deck Department, and shall pay particular attention to the condition and upkeep of all safety apparatus and the cleanliness and sanitation of living quarters.

Whenever the ship is moored or anchored, the Mate shall make a daily inspection of the mooring lines or ground tackle to assure himself of the safety of the vessel.

First Mate's Responsibility for Cargo and Cargo Records

(60) The First Mate is particularly charged with the responsibility for the safety and proper handling of the cargo. He will be held responsible for any loss or contamination of cargo which results from mismanagement or negligence on his part, or errors on the part of his subordinates which might have been prevented through proper supervision and instruction by the First Mate, and he is also charged with the prompt and accurate preparation of all cargo records hereinafter provided for.

Planning of Ship's Work and Outside Repairs

(61) The First Mate shall lay out and supervise the work to be done by the deck force so that precedence will be given to items most necessary for preservation, and he shall assure himself that no painting or other work is carried out in a manner that will work for good appearance to the detriment of the upkeep and preservation of material.

The Deck Department Work Book

(62) The First Mate shall keep in the Deck Department Work Book (Form No. S-412) an account of the work performed by the ship's deck force, together with a corrected list of items of neces-

sary and desirable repairs which are beyond the capacity of the ship's force. The Deck Department Work Book shall be consulted whenever requisitions for outside repairs are prepared in accordance with the provisions of Chapter V.

Section III—Mate-on-Watch

Responsibilities and Duties of the Mate-on-Watch

(63) The Mate-on-Watch is the Master's representative, and as such is responsible for the safety of the vessel, the maintenance of a sharp lookout at all times, the course made good, and for strict compliance both by day and by night with the provisions of the Rules of the Road, the orders in the Night Order Book (Form No. S-259) and these regulations.

Leaving the Bridge While on Watch

(64) The Mate-on-Watch shall remain on duty on the bridge until regularly relieved by another Mate attached to the vessel or by the Master.

Duty Upon Relieving

(65) When the Mate-on-Watch is being relieved, he shall hand to his relief the Night Order Book and make him thoroughly acquainted with the position of the ship with reference to vessels in sight and to any land, shoals, or aids to navigation which may be in the vicinity; with the general condition of the weather, with the course, the speed; with all unexecuted orders; with the condition of the running lights and any other appliances required by law to be in operation or at hand; with the general condition of the watch on deck for duty; and with the general condition of the ship.

It shall be the responsibility of the Mate relieving to assure himself that he has secured all the above mentioned information before taking over the watch, and he shall state distinctly that he takes over the watch and his eyes are accustomed to the darkness or light conditions.

Relieving When Vessel Is in Danger

(66) If the relieving Mate considers the ship in danger, he may refuse to relieve until the facts have been reported to the Master and the Master's instructions received.

Reports to the Master

(67) The Mate-on-Watch shall make prompt report to the Master whenever the vessel appears to be in any way threatened by danger; whenever the weather sets in thick due to fog, rain or falling snow; whenever another vessel is sighted which appears on a course that may cause it to pass within one mile of his own vessel; whenever the course or speed has been altered; whenever it is expected to sight any aid to navigation or landfall; whenever land, aid to navigation, breakers, or discolored water are sighted; whenever there is any marked change in weather or sea, and when-

ever any unusual occurrence takes place which might in any way influence the Master in the navigation of the ship or the administration of the internal affairs of the vessel.

Navigational Duties (68) In the absence of the Master from the bridge, it shall be the duty of the Mate-on-Watch to take bearings of all aids to navigation that are necessary to determine the position of the vessel. All such bearings shall be recorded in the Rough Deck Log Book (Form No. S-132).

Use of the Lead by Mate-on-Watch (69) The Mate-on-Watch shall not hesitate to use the lead on his own initiative whenever such action will contribute to the safe navigation of the ship, but under no condition shall he leave the bridge without being relieved by the Master or another Mate.

Inspection of Ship (70) The Mate-on-Watch after being relieved, shall make an inspection of the upper decks and the living compartments to guard against fire or dangerous conditions.

Writing the Log (71) The Rough Deck Log Book shall be a full and accurate account by watches of the navigation of the vessel, the condition of the sea and weather, and any unusual occurrences that may have taken place.

The Master shall be held responsible for supervising the preparation of the Rough Deck Log Book and he shall assure himself that the time and results of bearings and other navigational work are entered so that the track of the ship, both in restricted waters and on sea passages can be laid down from the information contained in this book.

The Rough Deck Log Book shall be written up and signed by each Mate after being relieved, but before leaving the bridge. The Smooth Deck Log Book shall be a true and accurate copy of the Rough Deck Log Book, and it shall be signed on each page by the Master and First Mate.

Section IV—Mate-in-Charge in Port

Duty Upon Relieving in Port (72) The Mate-in-Charge in port shall, upon relieving, ascertain the depth of water; the number of fathoms of anchor cable out or the lines by which the vessel is secured to a dock; whether or not machinery is disabled; the officers and crew who are absent from the ship; the orders relative to getting under way and all general instructions set forth in the Deck Order Book (Form No. S-419). Before taking over the watch the relieving mate shall read and initial the Deck Order Book.

The Deck Order Book

(73) The Deck Order Book shall be kept in the custody of the Mate-in-Charge in which the Master or First Mate shall write the orders relative to handling cargo, ballasting ship or any other matters which require special attention.

Handling Cargo

(74) The Mate-in-Charge shall be responsible for the handling of cargo during the time he is on watch, except when the First Mate is personally on deck.

Prevention of Accidents

(75) The Mate-in-Charge shall be especially on the alert to prevent accidents, and he shall rigidly enforce all safety regulations.

Maintenance of Discipline

(76) The Mate-in-Charge shall be responsible for the maintenance of discipline, and he shall exercise close supervision over the personnel to assure that the provisions of these regulations are carried out.

Duty to be Up and About

(77) The Mate-in-Charge shall be up and about the decks during his watch, and he shall not leave the ship, except on duty in the immediate vicinity of the vessel without first being properly relieved.

Inspections of Ship

(78) The Mate-in-Charge shall make a careful inspection of the ship not less than once every four hours and shall make an appropriate entry in the Rough Deck Log Book (Form No. S-132) stating the result of each inspection.

Data for the Port Log

(79) The Mate-in-Charge shall collect the data required for the Port Log (Form No. S-61) and shall be responsible that the required information is accurate and complete.

Responsibility for Relief Mates

(80) When Relief Mates report for duty, the Mate-in-Charge shall be held responsible for their instructions and orders, and under no circumstances shall the Mate-in-Charge permit a Relief Mate to assume the watch until he has been made thoroughly familiar with the general orders, arrangement of the cargo system, the location of valves necessary for handling the cargo, the location of safety apparatus and the detailed instructions concerning the handling of cargo.

Section V—Chief Engineer

Responsibility and Authority of the Chief Engineer

(81) The Chief Engineer, as head of the Engine Department, is responsible for the operation and upkeep of all machinery; for the upkeep and maintenance of compartments

and equipment as hereinafter specified and for the administration of the Engine Department. The Chief Engineer shall have authority over all persons assigned to the Engine Department and shall have authority to assign Assistant Engineers to any watch or repair work that he may deem advisable for the best interests of the ship. The Chief Engineer shall also act as the direct representative of the Construction and Repair Division in supervising outside repairs in accordance with the provisions of Chapter V.

The paramount duty of the Chief Engineer is the safe, efficient and economical operation of machinery and no other duty or consideration shall interfere with the Chief Engineer's direct and personal supervision over the operation of the machinery.

Machinery, Compartments and Equipment Assigned to the Engine Department

(82) The Engine Department shall be responsible for the maintenance and upkeep of the following:

All machinery of whatever description except that the Deck Department shall be responsible for the paint work of the cargo pumps and deck machinery.

The lines and valves of the cargo system except that the Deck Department shall be responsible for the paint work.

All steam and water lines except that the Deck Department shall be responsible for the paint work of the parts of such lines that are outside of the compartments assigned to the Engine Department.

The telemotor and telemotor system.

All voice tubes, telegraphs and steam whistles.

The entire electrical installation except the gyro compass circuits and equipment, but including the gyro compass turbo generator up to and including its switchboard.

All spaces comprised within the Engine Room and Fire Room bulkheads, the donkey boiler room, uptakes and fidley.

Crossbunkers, Cofferdam aft of Crossbunker, After Peak, Double Bottoms, Domestic and Gravity tanks.

All bunker spaces in and around the Engine Room and Fire Room with the exception of spaces therein allotted to other departments.

The inside of the steering engine room and the emergency generator compartment.

The firemen's forecastle, wash room and toilet for scaling and painting.

All ladders and stairways leading into or contained within spaces for which the Engine Department is responsible.

Duties of Chief Engineer Upon Joining a Ship

(83) Upon joining a ship, the Chief Engineer shall make a thorough and detailed inspection of all machinery, compartments and equipment under the cognizance of the Engine Department, and shall make a personal inventory of Engine Department stores and equipment. He shall acquaint himself with the engineering performance of the vessel with particular reference to the daily consumption in port and at sea of fuel, water and stores, and the quantities then on hand.

He shall make a report in detail to the Manager, copy to the Master immediately upon the completion of this inspection, stating the condition of all machinery, compartments and equipment for which the Engine Department is responsible and stating any discrepancy between the actual quantity of fuel, water and stores on hand and the quantity shown by the ship's records.

Chief Engineer's Inspections

(84) The Chief Engineer shall, both by day and by night, make frequent inspections of all machinery spaces when the vessel is under way, and these inspections shall be so scheduled as to assure that the Chief Engineer is fully cognizant by personal observation of the conditions under which all machinery is operated and the manner in which the watches are kept by each of the Assistant Engineers. He shall advise the Master of any machinery damage involving seaworthiness, outside assistance or possible delay.

Chief Engineer's Supervision Over Stores and Equipment

(85) The Chief Engineer shall exercise personal supervision over all equipment in the Engine Department and over the expenditure of all stores or material of any kind made on account of the Engine Department.

He shall personally supervise the quarterly inventory of spare parts and equipment and shall forward accurate accounts of such inventories on the Quarterly Report of Physical Condition and Spare Parts (Form No. S-317).

The Chief Engineer shall require the Engine Department Storeroom Account Book (Form No. S-413) to be accurately maintained so that it will show at all times the actual quantity of each item of stores on hand and shall be responsible that stores are neatly arranged in the manner best calculated to assure preservation and plainly labelled in order that any item may be located without delay.

The Chief Engineer shall exercise particular attention to guard against wasteful requisitions and to assure that all requisitions are prepared in accordance with the provisions of the Combined Stock and Specification Book (Form No. M-492.)

The Engine Department Work Book

(86) The Chief Engineer shall keep in the Engine Department Work Book (Form No. S-414) a complete record of the work performed by the Engine Department force including all repairs and adjustments to machinery together with the dates on which such repairs and adjustments were made.

This book shall be consulted whenever requisitions for outside repairs are prepared in accordance with the provisions of Chapter V.

Laying Out and Supervising Work by Chief Engineer

(87) The Chief Engineer shall so plan and schedule the work to be performed by the personnel of the Engine Department as to best obtain the preservation and efficient operation of the machinery. He shall give precedence to work most necessary to upkeep, and shall assure that no painting or other work is carried out in a manner that works for good appearance to the detriment of upkeep and preservation.

The Chief Engineer's Responsibility for Navigation Laws and Steamboat Inspection Regulations

(88) It is the duty of the Chief Engineer to keep himself fully informed of the latest revisions of the U. S. Navigation Laws and Rules and Regulations of the U. S. Steamboat Inspection Service, and to see that the provisions of these laws and regulations are strictly complied with in the operation of the Engine Department.

Maintenance of Discipline and Reports of Cases of Misconduct

(89) All Engineer Officers are responsible for the maintenance of good order and discipline among the personnel of the Engine Department, and they shall be constantly alert to protect the Company's property against irregular or wasteful practices on the part of any member of the crew. Engineer officers shall make prompt report to the Chief Engineer of any breach of discipline on the part of any member of the Engine Department.

Storage and Regulation of Consumption of Fuel and Fresh Water

(90) The Chief Engineer shall be responsible for the storage of fuel and fresh water, and the regulation of consumption. He shall consult with the Master and assure himself before leaving port that there is a sufficient quantity of fuel and water on board to meet any unusual condition which may arise, but he shall not carry an unnecessary surplus to the exclusion of cargo.

Duties of the First Assistant Engineer

(91) The First Assistant Engineer is responsible to the Chief Engineer for the administration and supervision of the Engine Department and shall perform these duties in accordance with the general policies and directions of the Chief Engineer.

The Second and Third Assistant Engineers shall report to the First Assistant Engineer who shall assign them to duty both at sea and in port, and these officers shall consider the First Assistant Engineer's orders effective and binding. The First Assistant Engineer shall not, however, have authority to relieve the Engineer on-Watch at sea without the approval of the Chief Engineer.

Succession to Authority; Engine Department

(92) In the case of absence or disability of the Chief Engineer, his duties and authority shall devolve upon the assistant engineers on board in the following order, provided they hold the necessary licenses:

First Assistant Engineer

Second Assistant Engineer

Third Assistant Engineer

Officers On Duty (93) The following schedule represents the Company's minimum requirements for the duty to be taken by engineer officers under the various circumstances outlined. Nothing in these regulations, however, shall limit the Chief Engineer in requiring more, or all, officers to be aboard when he considers their presence necessary:

When Warming Up the Main Engines. Two Engineer Officers shall be aboard, one of whom may be a Relief Engineer.

When Anchored in the Stream. The Chief Engineer or First Assistant and one other Assistant Engineer shall be aboard. A Relief Engineer of the same or higher rating may take any part of this duty.

When Under Repairs. All Engineer Officers shall be aboard during working hours. One of the Assistant Engineers shall be aboard the ship during the night except that a Relief Engineer may take the night duty.

When Docking, Undocking or Maneuvering in Restricted Waters. On twin screw ships there shall be two Assistant Engineers on the control platform; on single screw ships there shall be one Assistant Engineer on the control platform and in either case the Chief Engineer shall station himself in the machinery spaces wherever he considers his presence most necessary.

Main Engine Governors (94) Main engine governors shall be kept adjusted in working order ready for use at all times.

Water Service to Stern Gland (95) The water service line to the stern gland shall be maintained in operative condition at all times.

Taking Indicator Cards (96) Three sets of Indicator Cards (Form No. S-106) shall be taken under normal running conditions on every sea passage of more than two days' duration. Two sets of cards shall be worked out with all data accurately entered, one set worked out and one set not worked out shall be forwarded to the Manager, and the remaining worked out set shall be retained in the Chief Engineer's files.

All diagrams shall be approximately 4″ in length, clearly defined and centrally located on the cards. The value of "Per cent of Cut-off" will be understood to represent the percentage of the full stroke through which steam is admitted to the cylinder and under "Position of Links," the setting shall be recorded in inches, zero representing the links wide open and the valve operating through its maximum travel.

Cylinder Lubrication

(97) The use of oil to lubricate the interior of steam cylinders or valve chests is unnecessary with saturated steam and is prohibited.

If over 100° of superheat is carried the approved grade of cylinder oil shall be injected through the lubricator.

Main Engine Clearances

(98) All main engine clearances shall be carefully measured whenever possible and the results recorded in the Engine Department Work Book (Form No. S-414).

Care of Boilers

(99) The Chief Engineer shall keep himself fully acquainted with the general condition of the interiors of the boilers and shall satisfy himself by regular inspections that the boilers are not subject to corrosion or undue deposits.

The Chief Engineer shall avail himself of every opportunity to personally enter and inspect the water sides of boilers and interiors of furnaces and every opportunity shall be taken to test the furnaces by tram to assure that there is no distortion.

Temperature of Boilers

(100) Sudden and rapid changes in the temperature of the boilers shall be avoided. Tubes shall not be unnecessarily exposed to cool air by opening connection doors or leaving dampers open.

In all cases when it is believed that a boiler has been subjected to excessive heating through undue forcing or low water level, the boilers shall be immediately cut out, the feed check closed, the air checks closed and all openings plugged up in order to allow the boiler to cool gradually and evenly.

Lighting Off and Cutting in Boilers

(101) Except in cases of emergency 10 hours shall be allowed for raising steam in a boiler filled with water at a temperature of 150° F. or more and 12 hours shall be allowed for raising steam in a boiler which contains colder water.

When cutting in a boiler, the stop valve shall be no more than cracked until the pressures in the steam line and the boiler have equalized, at which time the main stop valve shall be gradually brought to full opening.

Cutting Out Boilers

(102) In cutting out boilers, all burners shall be removed from the furnaces and a sign hung on the front of the boiler: "Boiler Cut Out—Light no Fires."

Water Tests and Boiler Compound

(103) The water in the feed and filter tank shall be tested by the Engineer-on-Watch at least once each watch. If any indication of salting up is found, immediate steps shall be taken to locate the leak and the Chief Engineer shall be advised as soon as possible.

In addition, the Chief Engineer shall have all boilers tested once daily to determine the grains of chlorine per gallon and the alkaline strength.

The results of all water tests shall be entered in the rough Engineer's Log Book (Form No. S-126) and closely observed by the Chief Engineer who shall inject boiler compound as may be necessary to maintain the proper alkaline strength. Boiler compound shall be applied gradually in small quantities at a time in order not to overload the system by injecting an excessive quantity in one operation.

The compound receptacles shall be used for injecting compound and under no circumstances shall compound be put directly into the filter tank.

Forced Draft System (104) The interior and exterior of the forced draft air tubes and ducts shall be frequently inspected for leaks and kept free from all soot and dirt.

Oil Leaks to the Feed Water System (105) Special attention shall be devoted to the detection of any leaks from the oil to the steam side of the fuel oil heaters. Frequent examination shall be made of the observation tank and the fuel heater drains, and, further, the steam pressure on the heater shall be maintained higher than the oil pressure whenever it is practicable to do so.

Use of Low Suction (106) The low suction in the fuel oil bunker tanks shall always be used, except in cases of emergency.

Special Requirements Annual Boiler Inspection (107) In addition to complying with all Rules and Regulations of the U. S. Local Steamboat Inspection Service pertaining to the annual inspection of boilers, the Chief Engineer is especially charged not to apply a hydrostatic boiler test with water that is at a temperature of less than 75°, or at a pressure greater than 10 pounds less than the boiler working pressure, except when specifically ordered so to do by the U. S. Local Steamboat Inspectors.

Turning Idle Machinery (108) Auxiliary machinery not in use shall be turned over weekly.

Grease Extractor and Filter Tanks (109) The grease extractor shall be examined once each day on vessels using superheat, and once every two days on vessels using saturated steam. The filtering material shall be renewed promptly whenever undue deposits of grease are observed.

The feed and filter tank shall be inspected frequently and cleaned not less than once every three weeks.

Auxiliary Exhaust (110) Whenever practicable a back pressure of approxi-

mately 12 pounds shall be maintained on the auxiliary exhaust and care shall be exercised to assure that the drain from the feed water heater is properly regulated at all times.

Evaporators Ready for Emergency

(111) Evaporators shall be maintained clean and ready for use so that they can be forced to capacity whenever required. The interior of the evaporators shall be kept scraped clean and coated with powdered zinc and kerosene.

Care and Upkeep of Generators and Electrical Installation

(112) The Chief Engineer shall exercise strict supervision to assure the proper care and upkeep of the generators, wiring and all electrical installation.

The Chief Engineer shall make regular inspections of the wiring and electrical fixtures to assure that junction box covers, conduit covers and switch boxes throughout the ship are properly secured with all screws or dogs in place, made water tight with proper gaskets and properly drilled for draining. The Chief Engineer shall also assure himself that lighting outlets are properly protected and that vapor proof fittings are in place where originally installed.

Care and Upkeep of Pumps

(113) The upkeep of pumps shall be given the strictest attention to assure efficient operation and the absence of leaks. Special care shall be taken to see that the cushion valves are properly set and that the valve gear is so adjusted as to enable the pump to operate at its full stroke.

Care and Upkeep of Refrigerating Machinery

(114) The rules and instructions issued by the manufacturer of the refrigerating machinery shall be conspicuously posted in the ice machine room and shall be strictly complied with at all times.

Refrigerator Temperatures

(115) The Chief Engineer or the First Assistant, together with the Steward shall take the temperature of the meat box and chill room twice daily in the early morning and in the evening, and the results of such inspections shall be recorded on the Daily Report of Refrigerator Temperature (Form S-290).

Care and Upkeep of Deck Machinery

(116) The Chief Engineer shall exercise close supervision over the deck machinery and shall give such information and instructions as may be necessary to enable the Deck Department personnel to operate the machinery with the maximum of safety, efficiency and economy.

Particular care shall be taken in warming up the steam line to the deck machinery in order to guard against water hammer and the effects of uneven expansion.

Telemotor Solution

(117) The standard solution for telemotor systems on vessels having ½" pipe or smaller shall be:

30% glycerine.

70% water by volume.

Vessels having larger pipes may use telemotor oil.

Care and Upkeep of Cargo Heater Coils

(118) Cargo heater coils shall be tested under pressure periodically and all leaks promptly attended to. The test cocks on deck shall be opened before opening the drains of the observation tank in order to see that no oil is lying in the line. The returns from the heater coils shall be frequently inspected while the coils are in use, in order to detect immediately any oil which might find its way to the boiler feed system.

Galley Oil Burning Equipment

(119) The Chief Engineer shall cause frequent inspections to be made of the galley oil burning equipment, shall take prompt action to repair any deficiency, and have on hand necessary spare parts. He shall also assure an adequate supply of the proper grade of fuel oil being available at all times. The Chief Engineer shall also cause such assistance and instruction to be given to the personnel of the Steward's Department as may be necessary to enable them to operate the oil burning equipment efficiently and economically.

Stowage of Wiping Material

(120) The locker for stowing wiping material shall be frequently inspected to guard against spontaneous combustion and under no circumstances shall rags or other material, which have become soaked with oil, be stowed in this locker.

Ullages Taken Daily at Noon

(121) Soundings or ullages of all compartments under the jurisdiction of the Engine Department which are fitted to carry fuel or water (boiler or domestic) shall be taken at noon daily and appropriate entries made in the smooth Engineer's Log Book (Form No. S-126).

Fuel Oil Complaints

(122) In case fuel is received which is of poor quality samples shall be obtained and forwarded to the Manager at the first port of call, together with an explanation covering the following particulars: Where received, when received, quantity received, quantity of fuel on board when oil in question was received, difficulties experienced with fuel received.

When taking samples of fuel, care shall be exercised to obtain a sample from the top, middle and bottom of the tank.

Laying Up of Boilers

(123) When boilers will be idle for a considerable period of time they shall be emptied and the interiors thoroughly dried out. Open trays filled to about one-half their height with quicklime

shall be introduced. The boilers shall then be closed air tight and special precautions taken to prevent any moisture entering the interior while they are being thus treated. If necessary, to this end, the joints of feed and blow systems shall be broken and adjacent sections of steam piping shall be blanked off and the drains left open.

Laying Up Main Engines, Auxiliaries and Lines

(124) When a vessel is laid up, the iron or steel bright work of the machinery, except such parts as pass through stuffing boxes, or work upon sliding surfaces, shall be covered with white lead and tallow. All parts passing through stuffing boxes or working upon their surfaces, such as piston rods, valve stems, guide and slide faces, interiors of steam cylinders and valve chests must be cleaned and covered with a thick coating of vaseline or cylinder oil. The machinery should be moved after the first application so as to bring all these parts to bear upon properly covered surfaces.

All bearings shall be well oiled, the engines being turned one complete revolution after oiling.

All water-containing parts of the machinery inside of the outboard valves shall be thoroughly drained. Particular attention shall be paid to draining the pump cylinders, condensers, feed, blow and suction pipes, fire main, sanitary lines, and all steam and exhaust piping where it is possible for water to gather. In draining these pipes, flange joints shall be broken at the lowest parts of each system or wherever a pocket has formed, which is not drained by a drain pipe.

The Smooth Engineer Log Book

(125) The Chief Engineer shall prepare the Smooth Engineer's Log Book (Form No. S-126) which shall be an exact copy of the rough Engineer's Log Book and shall be signed on each page by the Chief Engineer. The Smooth Engineer's Log Book shall be forwarded to the Manager at the completion of the voyage nearest the end of each calendar month; the Engineer's Rough Log shall be retained in the files of the Chief Engineer.

Abstract of Engineer's Log

(126) The Chief Engineer shall prepare an Engineer's Abstract of Log (Form No. S-49) for every sea passage as outlined in Article 242. The original of this abstract shall be forwarded to the Manager immediately upon the vessel's arrival in port, and a copy shall be retained in the Chief Engineer's files.

Fuel and Water Receipts

(127) The Chief Engineer shall check the amount and gravity of fuel and quantity of water received and shall com-

pare the quantity delivered according to his calibration table corrected for temperature with the amount shown on the invoice. Copies of all receipts for fuel and water shall be retained by the Chief Engineer as a permanent ship's record.

In the case of a discrepancy between the amount received according to the ship's calibration tables and the amount shown on the invoice the Chief Engineer shall sign the invoice, but shall state above his signature on the invoice the quantity received according to the ship's figures. The Chief Engineer shall then make a full report of the circumstances to the Manager.

Quarterly Report of Physical Condition and Spare Parts

(128) The Quarterly Report of Physical Condition and Spare Parts (Form No. S-317) shall be submitted every three months. This form is used by the Construction and Repair Division as a basis for making up certain specifications for repairs and overhaul and shall, therefore, be forwarded before leaving port on the voyage prior to scheduled boiler washing period.

Noon Report to the Master

(129) The Chief Engineer shall submit a daily noon report to the Master at sea on "Chief Engineer's Daily Noon Report" (Form No. S-30).

Section VI—Engineer-on-Watch

Authority and Responsibility of Engineer-on-Watch

(130) The Engineer-on-Watch is the representative of the Chief Engineer and as such has full authority over and full responsibility for the safe and economical operation of the propelling machinery and its dependencies. He has full authority over all persons on watch, who shall regard his orders as final and binding.

Engineer-on-Watch Leaving Engine Room or Boiler Room

(131) The Engineer-on-Watch shall not leave the Engine Room or Fire Room unless properly relieved by a licensed Engineer attached to the vessel as an Assistant Engineer.

Safe Machinery Operation

(132) The paramount duty of the Engineer-on-Watch is to operate the installation in a manner that assures the safety of the vessel, the personnel and the machinery and, to this end, he shall be constantly on the alert to guard against personal injuries, damage to machinery and fire in the machinery spaces. He shall give particular attention to all safety precautions, fire extinguishing apparatus and safety devices to assure that risk of casualty is reduced to a minimum.

Economical Machinery Operation

(133) The Engineer-on-Watch shall keep himself informed of the consumption of fuel, lubricating oil and fresh water

during the watch, and in case expenditures are unusual, he shall make immediate effort to determine the cause and remedy it, reporting all the facts to the Chief Engineer as soon as possible.

Relieving the Watch in the Engine Room

(134) When turning over the watch to his relief, the Engineer-on-Watch shall inform the relieving officer of the designated revolutions and any special orders of the Chief Engineer. He shall also turn over to his relief knowledge of any bearings or rods that are or have been hot, or any machinery defects that may exist, the tank from which reserve feed is being taken, the bunker and suction from which fuel oil is being used, together with any other facts that will be of assistance or interest to his relief. It is, moreover, the responsibility of the Relieving Engineer not to assume the watch until he has obtained all necessary information.

Routine Inspection of the Steering Engine While Under Way

(135) Before going below to the Engine Room to relieve the watch, the relief Engineer-on-Watch shall make a thorough inspection of the steering engine.

The Engineer shall require an oiler to inspect and oil the steering engine at intervals of not less than once each hour.

Immediate Reports to the Chief Engineer

(136) In addition to the reports required by the foregoing regulations, the Engineer-on-Watch, in case of breakdown or other defect of machinery or boilers, shall take immediate steps to prevent further damage and inform the Chief Engineer of the facts as soon as possible thereafter. He shall also make immediate report to the Chief Engineer of any orders from the bridge, change in speed or any unusual condition or circumstances whatsoever.

Writing the Log and Bell Record Book

(137) The Engineer-on-Watch shall accurately record the data called for in the rough Engineer's Log Book (Form No. S-126) and he shall require the oiler to accurately enter all signals from the bridge with corresponding times in the Bell Record Book (Form No. S-421).

The rough Engineer's Log Book and the Bell Record Book shall be completely written up by the Engineer-on-Watch and both books signed by him in the proper place before going off watch as a guarantee that full and accurate entries have been made.

Section VII—Engineer-in-Charge in Port

Duty of Engineer in Charge in Port

(138) The Engineer-in-Charge in port shall comply with all the provisions of the foregoing regulations except those

which are applicable only to the operation of the installation under way, and except those which are modified by the provisions of this Section.

The Engineer-in-Charge shall perform whatever duty is prescribed by the Chief Engineer or by the Assistant Engineer acting for the Chief Engineer, and it is his duty to remain up and about for the entire watch, except when otherwise specifically authorized by the Chief Engineer in special cases when the vessel is not under steam.

Supervision Over Work by Engineer-in-Charge

(139) The Engineer-in-Charge shall, in the absence of the Engineers responsible, exercise general supervision over repair work.

The Engineer-in-Charge shall, in the absence of the officers directly responsible or representative of the Construction and Repair Division, be present whenever machinery is closed up, whether by the ship's force or by outside contractors, and he shall be responsible for the proper assembly of such machinery.

Receipts of Fuel and Water by Engineer-in-Charge

(140) The Engineer-in-Charge shall exercise particular care when receiving fuel or water to assure that the proper amounts are delivered and to guard against overflow. To this end, he shall call out whatever assistance is necessary to assure a close watch on the tanks and accurate soundings to determine the quantity received.

Writing the Engineer's Log in Port

(141) The Engineer-in-Charge shall write the rough Engineer's Log Book (Form No. S-126) in the same manner as required by Article 137 as far as applicable to the operation of the plant in port. Particular pains shall be exercised to assure that the rough Log shows a full account of machinery in operation, time of cutting in or cutting out machinery or boilers, repairs in progress, time of starting and finishing bunkers and water, together with quantities received, orders and reports received verbally or otherwise by the Engineer-in-Charge and, where a vessel is detained in port more than 24 hours, the fuel, water and lubricating oil expended and on hand as of noon.

Responsibility for Relief Engineers

(142) When a relief engineer reports for duty, the Engineer-in-Charge shall be held responsible for his instruction and orders and under no circumstances shall the Engineer-in-Charge permit a relieving assistant to assume the duty until he has been made thoroughly familiar with the arrangement of machinery, the orders and instructions for operating machinery and in particular the location and operation of feed and fuel systems, fire fighting and safety apparatus.

Section VIII—Steward

Responsibility and Authority of the Steward

(143) The Steward is responsible to the Master for the efficient and economical administration of the Steward's Department. He shall be especially charged with the adequate

provisioning of the ship, the satisfactory preparation and service of meals, the preservation and upkeep of the compartments, stores and equipment under his jurisdiction, the assignment to duty and the efficiency of all members of the Steward's Department.

Compartments Spaces and Equipment Assigned to the Steward's Department

(144) The Steward's Department is responsible for the maintenance and upkeep of the following compartments and equipment:

All Messrooms

All Pantries

The Butcher Shop

The Steward's Storerooms

The Galley

The Refrigerator Compartments

The enclosed passageways in the way of living quarters not opening to the machinery spaces

The inside of Licensed Officers' rooms

The inside of Licensed Officers' toilets and bathrooms

The inside of Petty Officers' quarters, toilet and washroom

The sailors' and firemen's forecastles, washrooms and toilets for cleanliness

The passageway in the way of quarters of Petty Officers, Firemen and Sailors for cleanliness

All cooking utensils

All mess gear

All linen, bedding, etc., and the linen locker

The ladders leading into or contained within the compartments assigned to the Steward's Department.

Regulation of Expenditure of Stores and Provisions

(145) The Steward is personally responsible to the Master for proper regulation and supervision over the expenditure of provisions and other stores in the Steward's Department.

He shall take personal charge of the Steward's Storerooms and the refrigerator rooms and shall personally keep the Requisition for Provisions and Inventory (Form No. S-118) and Steward's Inventory of Sundry Stores and Equipment (Form No. S-219) in which all data required shall be accurately entered.

The Steward shall pay particular attention to the stowage of stores and provisions in order that they may be properly arranged in the manner best calculated to assure preservation.

Planning Work and Outside Repairs; Steward's Dept.

(146) The Steward shall maintain a Steward's Department Work Book (Form No. S-415) which will show a record of the work performed by the Steward's force and in which shall be kept a list of necessary and desirable repairs beyond the capacity of the ship's force. This book shall be consulted when requisitions for outside work are prepared in accordance with the provisions of Chapter V.

Duties of the Steward Upon Joining Ship

(147) Upon joining a ship the Steward shall make a thorough inspection of all compartments, stores and equipment for which the Steward's Department is responsible, and he shall make a personal inventory of the provisions, equipment and stores in the Steward's Department and note any discrepancies between the amounts on hand and the amounts shown on the Requisition for Provisions and Inventory (Form No. S-118) and Steward's Inventory of Sundry Stores and Equipment (Form No. S-219).

The Steward shall immediately thereafter make a report to the Master, stating clearly the condition of all compartments, stores and equipment over which he has jurisdiction, and he shall clearly set forth in writing any discrepancies between the quantities of provisions, stores and equipment on hand and the quantities shown on the ship's records.

Issue of Stores and Custody of Keys

(148) The Steward shall personally supervise the issue of all Steward's Department stores and provisions and under no circumstances shall he give custody of storeroom or refrigerator room keys to any other person, except in the absence of the Steward from the ship.

Steward's Inspections

(149) The Steward shall make a thorough inspection at least three times daily of all compartments and spaces under his jurisdiction, with the exception of the refrigerator rooms which shall be inspected twice daily in the early morning and evening when the temperatures are taken in accordance with the provisions of Article No. 115. The Steward shall note any deterioration of stores, loss or breakage of mess gear or linen and he shall observe the sanitary condition of the vessel in detail. The Steward shall make a report of these inspections daily to the Master.

Cleanliness and Sanitation

(150) The Steward is responsible that officers and crew's living quarters, mess rooms and other compartments over which he has jurisdiction are properly cleaned and aired daily and maintained in a thoroughly sanitary condition at all times.

Disinfectants shall be regularly used in the toilets and shall be applied in other compartments and spaces when necessary.

Cleaning of Galleys, Pantries and Mess Rooms

(151) The Steward shall see that the galley, pantries and mess rooms are thoroughly cleaned after each meal; that all utensils are cleaned and stowed and that all food left

over is returned to the galley. He shall take particular pains to see that only the gear and equipment in actual use are permitted in these quarters and that personal effects are excluded.

Benches, tables, dressers and decks of mess rooms shall be scrubbed at least once a day.

Roaches shall be exterminated in these compartments by ample use of boiling water and chemical exterminators.

Maintenance of Complete Outfit of Equipment

(152) The Steward is responsible that the ship is furnished with a complete set of standard equipment as specified in the Steward's Inventory of Sundry Stores and Equipment (Form No. S-219). The Steward shall make a complete inventory of all equipment on hand at the termination of each voyage ending at New York, where replacement of broken or missing articles will be made.

Cleaning of the Butcher Table and Block

(153) The Steward shall require the butcher table and block to be cleaned with a steel wire brush immediately after being used. No water shall be used in cleaning this equipment.

Cleaning of Aluminum Ware

(154) Aluminum ware shall be cleaned with steel wool only. Neither sal soda, pot chains or lye shall be used for this purpose.

Suggested Cleaning Stations for Personnel

(155) The following cleaning stations are furnished as a guide for the administration of the Steward's Department, but it must be clearly understood that the following suggestions are subject to change by order of the Master or Steward:

The Chief Cook shall be accountable to the Steward for the proper and economical cooking of all meals and for the cleanliness of the galley, butcher shop, meat block and table and meat room.

The Second Cook shall act under the orders of the Chief Cook and clean the galley and galley equipment. He shall assist the Chief Cook in the preparation and cooking of food and he shall do other work as directed.

The Messmen shall serve all meals to Officers in accordance with the Steward's instructions.

No. 1 Messman shall clean up the quarters amidships, the Second and Third Assistant Engineers' rooms and the bath room used by the Assistant Engineers.

No. 2 Messman shall clean up the officers' mess rooms and pantry and the quarters of the Chief Engineer and the First Assistant Engineer.

The Petty Officers' messboy shall serve all meals to the Petty Officers in accordance with the Steward's instructions. He shall keep the Petty Officers' quarters clean and tidy, make up the berths daily and scrub the deck of the Petty Officers' quarters at least twice each week. The Petty Officers' messboy shall also be responsible for the cleanliness of the Petty Officers' washroom and toilets.

The sailors' and firemen's messboy shall serve the sailors' and firemen's meals and keep their messroom, alleyways, washrooms and toilets clean, scrubbing the decks at least twice a week.

Personnel at Stations (156) All members of the Steward's Department shall be at their respective stations at 6:00 A. M. daily, ready to commence the day's work.

Issue of Stores (157) The Steward shall issue stores at 7:00 A. M., 11:00 A. M., and 4:30 P. M., and shall supervise each issue personally.

Steward's Supervision Over Preparation and Service of Meals (158) The Steward shall personally superintend the preparation and service of all meals in order to assure the economical and efficient operation of the ship's commissary.

Schedule of Meals (159) The Schedule of Meals shall be as follows:

	At Sea	In Port
Breakfast	7:30 to 8:30 A. M.	6:30 to 8:00 A. M.
Dinner	11:30 to 12:30 P. M.	12:00 to 1:00 P. M.
Supper	5:00 to 6:00 P. M.	5:00 to 6:00 P. M.

Service of Meals in Quarters (160) No meals are to be served in the quarters except in case of sickness, but meals for the Master may be served on the bridge, only, however, when emergency conditions demand.

Outsiders at Meals in Port (161) In Port, visitors are not to be accommodated at the table until all ship's officers have completed their meals, except that visitors may be accommodated in the places of absent officers.

Night Lunch (162) The Steward shall see that sufficient night lunch and freshly made coffee is prepared and set out for the night watches of the Deck and Engine Departments.

Cleanliness of Personnel (163) The Steward shall see that all members of his department present a neat and clean appearance at all times

and shall impress upon them the importance of being courteous to the ship's officers and crew and to any guest who may be aboard.

Preparation of Coffee and Tea (164) The Steward shall see that particular attention is paid to the preparation of coffee and tea. The coffee urn shall be properly cleaned after each meal and the coffee bag and ring thoroughly washed and hung up in the pantry to dry.

Daily Bill of Fare (165) The Steward shall furnish the Chief Cook with a daily Bill of Fare. The Bill of Fare shall be made out with care and forethought and with due regard for the quantities of provisions on hand. The meals shall be well balanced, well cooked and tastefully served. Eggs, steaks, chops and such dishes shall be cooked to order.

Two copies of the daily Bill of Fare shall be neatly written out and placed on the saloon table at each meal. One copy of each Bill of Fare issued during a voyage shall be retained by the Steward and forwarded to the Manager at the end of the voyage.

Fresh Vegetables and Canned Goods (166) Sufficient fresh vegetables shall be obtained to cover the requirements for each voyage. Canned goods, except tomatoes, shall not be used, except in an emergency or as a garnish.

Issue of Linen (167) The Steward shall issue linen in accordance with the following schedule, but soiled linen shall invariably be collected before the clean linen is issued.

Table linen shall be changed as required to keep the tables neat and clean.

Each licensed officer, the Steward and the Radio Operator shall be supplied weekly with the following:

1 white spread.
2 white sheets.
2 white pillow slips.
2 bath towels.
5 face towels.
Sufficient toilet soap.

When necessary the following shall be issued:

2 white single blankets.
1 blue mattress cover.
2 pillow covers.

The Pumpman, Boatswain, Oilers, Cooks, Messmen shall be supplied weekly with the following:

1 colored spread.
2 bath towels.
2 face towels.
2 sheets.
1 pillow slip.
Sufficient toilet soap.

In addition to the above, the following items shall be issued or changed when necessary:

2 single colored blankets.
1 blue mattress cover.
1 blue pillow cover.

The Crew (Sailors, Firemen and Wipers).

Before commencing a voyage each man shall be supplied with the following:

1 mattress.
1 pillow.
2 colored single blankets.
1 blue mattress cover.
1 blue pillow cover.
No towels shall be furnished.

Colored spreads shall be substituted for blankets when weather conditions warrant.

All items supplied the crew, except the mattress, pillow and blankets, shall be replaced every two weeks. Each man must keep these articles in a clean and sanitary condition at all times and they shall be returned to the Steward before the ship arrives in port. These items shall be checked by the Steward before the crew is paid off.

Curtains (Port, Berth and Door) and other items not listed on the Company's Standard Laundry List shall not be included with the laundry. Under no cirumstances shall these be removed from the ship unless authorized by the Supply Section.

Checking of Laundry and Disposition of Laundry List

168) The Steward shall personally check all laundry before it is removed from or delivered to the vessel. Except when delay to vessel would result when receipt shall be indorsed "subject to check."

Under no circumstances shall the Steward sign the Laundry List (Form No. S-165) until a careful inventory is made of the goods returned. Any discrepancy between the list of items sent and items received shall be noted in the "Remarks" column or subsequently reported to the Agent.

Two copies (original and tissue) shall be given to the representative of the laundry company when laundry is taken from the ship. One copy (tissue) shall be filed on the ship; two copies (pink and yellow) shall be sent to the Manager.

Handling of Stores (169) The Steward shall ascertain the time that stores are to arrive and shall personally be on deck when they are delivered. He shall check and inspect stores upon receipt, and shall immediately report any discrepancy in weight or inferiority in quality, and make appropriate notations on the face of receipts.

If it develops after the vessel sails that any item of provisions or stores is not up to standard, the Steward shall submit a complete written report of the details to the Manager through the Master, and all such cases will be thoroughly investigated by the Supply Section and appropriate action taken.

Empty Containers (170) Empty containers such as jugs, demijohns, beef barrels, cracker tins and burlap bags shall be retained on board. A list of such empty containers shall be handed to the representative of the Supply Section immediately upon the vessel's arrival at New York, Baltimore or Baton Rouge and this representative will issue necessary instructions as to their disposition.

Stores Purchased Away from New York (171) Sailing letters will indicate the points at which stores and provisions shall be purchased, and purchases contrary to the sailing letter at outports other than New York, Baton Rouge or Baltimore shall be made only in case of absolute necessity upon the written approval of the Master and then only in sufficient quantities to cover the actual requirements of the vessel until arrival at one of the ports specified above.

Standard Meat Box Temperature (172) The standard temperatures for the meat and chill rooms are as follows:

Meat Room 24 to 28° F.
Chill Room 45 to 50° F.

If, through defective refrigerator equipment it is impossible to maintain these temperatures, the Manager shall be notified as soon as possible by letter. The record of meat and chill room temperatures shall be entered daily and forwarded to the Manager at the end of each voyage.

Condemned Stores (173) Stores not fit for consumption shall be surveyed by the Master and Steward before being condemned as unfit for use. Non-perishable

stores which are condemned by survey shall not, however, be thrown overboard, but shall be stored in a suitable place and delivered to the Port Steward upon the next arrival of the vessel at New York, Baltimore or Baton Rouge.

Whenever a survey is held a report shall be prepared showing the date of the survey, a list of the condemned stores showing by items the exact quantities and the reason for deterioration and the place and date at which the stores were placed aboard and the name of the suppliers. This report shall be signed by the Master and Steward and forwarded to the Manager at the end of the voyage.

Delivery Slips, Bills and Invoices

(174) The Steward shall retain copies of all delivery slips and at outports, where conditions necessitate the transaction of such business by the vessel's personnel, copies of all bills and invoices for provisions and stores. All such delivery slips and bills shall be properly arranged in a file, at all times readily available to the Port Steward upon demand.

Standard Provision List

(175) All vessels shall be provisioned in accordance with the Standard List of Provisions (Form No. 398) and the Steward shall exercise care to assure that the requisitions are in accordance therewith.

Requisition for Provisions and Inventory

(176) The Steward shall be held responsible for the prompt and accurate preparation of the Requisition for Provisions and Inventory (Form No. S-118). The Steward shall take particular care to assure that the following items are correctly entered:

Quantities on hand.

Supplies received at New York or outports.
(The port and date shall be named in each case.)

Total provisions for the voyage.

Provisions consumed during the voyage.

Provisions actually remaining at the termination of the voyage.

In making out the feeding statement on this form all passengers, workaways and stowaways, as well as accredited representatives of the Company or "guests" in port to whom extra meals are served, shall be included in the column for "guests."

Visitor's Meal Receipts (Form S-334) dated and properly signed by the persons to whom extra meals were served shall be attached to the Requisition for Provisions and Inventory.

The page provided for the records of the Steward's Department personnel shall be filled out in all particulars and the Steward shall add any remarks that might be necessary to fully describe the performance of duty by the men reported on.

The Requisition for Provisions and Inventory shall be prepared in dupli-

cate, a copy retained in the ship's files and the original shall be handed to the Port Steward upon every arrival at New York or to the Port Steward at Baltimore or Baton Rouge whenever sea stores are taken at these ports. At all other outports where sea stores are taken the Requisition for Provision and Inventory shall be forwarded with all enclosures to the Manager through the Master by mail.

Inventory of Sundry Stores and Equipment

(177) The information required by the Steward's Inventory of Sundry Stores and Equipment (Form No. S-219) shall be kept on hand and corrected to date at all times and the form shall be prepared in duplicate upon every arrival at New York, Baltimore or Baton Rouge. The copy shall be retained in the ship's files and the original shall be forwarded through the Master to the Manager by mail.

Specifications for Provisions

(178) Whenever conditions necessitate the purchase of provisions at outports, such provisions shall be purchased in strict accordance with the Company's general specifications which will be issued from time to time by circular letter.

Section IX—Radio Operator

Lease of the Wireless Installation

(179) The radio installation, except that on several of the vessels, is leased from an outside company which is responsible for its maintenance and upkeep and which also instructs and supervises the Radio Operators in the general performance of their duties. The Radio Operator is, therefore, required to carry out the instructions of the lessor company, except in cases where the Master specifically authorizes and directs action contrary to such instructions.

Authority of the Master Over Radio Operator

(180) The radio service of the ship is under the authority of the Master and any instructions by him to the Radio Operator must be carried out implicitly. In the event, however, that any order issued by the Master is in conflict with Government regulations or the general instructions of the lessor Company, the Radio Operator shall report the circumstances to the Master, but shall govern himself by the Master's ultimate decision whether or not such decision is in accordance with Government regulations or the general instructions of the lessor Company.

Censoring of Messages by the Master

(181) Under no circumstances shall the Radio Operator transmit any message that has not been approved by the Master.

Maintenance and Upkeep of Radio Equipment

(182) The Radio Operator shall be responsible to the Master for the upkeep and efficient working condition of all parts of the radio installation and for the upkeep and cleanliness of the interior of the radio room.

Duties of the Radio Operator Upon Joining Ship

(183) Upon joining a ship the Radio Operator shall make a thorough inspection of the entire radio installation and shall submit a written report to the Master in triplicate, stating the general condition of the equipment and clearly specifying any defects discovered. During this inspection a complete inventory of spare parts and equipment shall be made by the Radio Operator in the presence of the First Mate and this inventory shall be entered on a Ship's Station Report (Lessor Company Form) in triplicate, endorsed by the First Mate and attached to the written report of the Radio Operator.

One copy of this report shall be forwarded to the Manager; one copy to the lessor Company, and one copy shall be retained in the ship's files.

Radio Reports and Records

(184) The Radio Operator shall be responsible for the proper preparation of all radio reports and records required by the published rules of the lessor Company. He is particularly charged with the prompt and accurate preparation of the Radio Log (Lessor Company Form), so that this record will show the full particulars of every message sent or received by the vessel.

Ship's Clerical Work

(185) If considered qualified by the Master, the Radio Operator shall perform the ship's clerical work in addition to his other duties and shall receive extra compensation as long as the clerical work is satisfactorily performed.

Information for Master on Radio Schedules

(186) It shall be the duty of the Radio Operator to keep the Master at all times informed of the time at which Radio time signals, weather reports, ice reports, news and routine messages are sent out from the various stations.

Standing Radio Watch

(187) The Radio Operator shall stand watch as directed by the Master and on a schedule calculated to assure the handling of ship's business to best advantage.

It is not the intention of the Management to lay down any firm schedule of watch for the Radio Operator and the following suggested schedule is intended to serve only as a guide to the Master and the Radio Operator in formulating a proper schedule of watch.

Zones	*Western Limit*	*Eastern Limit*	*Times of Watch for One Operator, G.M.T.*
A. Eastern, Atlantic, Mediterranean, North Sea, Baltic, Western Arctic Sea	Meridian of 30° W. Coast of Greenland	Meridian of 30° E. to the South of the Coast of Africa. Eastern Limit of Medit., Black Sea and of the Baltic, 30° E. to the North of Coast of Norway	from 8 h. to 10 h. 12 h. to 14 h. 16 h. to 18 h. 20 h. to 22 h.
B. Indian Ocean, Eastern Arctic Sea	Eastern Iimit of Zone A.	Meridian of 90° E.	from 0 h. to 2 h. 12 h. to 14 h. 16 h. to 18 h. 20 h. to 22 h.
C. China Sea, Western Pacific Ocean	Eastern Limit of Zone B.	Meridian of 160° E.	from 0 h. to 2 h. 4 h. to 6 h. 12 h. to 14 h. 20 h. to 22 h.
D. Central Pacific Ocean	Eastern Limit of Zone C.	Meridian of 140° W.	from 0 h. to 2 h. 4 h. to 6 h. 8 h. to 10 h. 20 h. to 22 h.
E. Eastern Pacific Ocean	Eastern Limit of Zone D.	Meridian of 70° W. South of the Coast of America, West Coast of America	from 0 h. to 2 h. 4 h. to 6 h. 16 h. to 18 h. 20 h. to 22 h.
F. Western Atlantic Ocean and Gulf of Mexico	Meridian of 70° W. South of the coast of America, East Coast of America.	Meridian of 30° W. Coast of Greenland	from 0 h. to 2 h. 12 h. to 14 h. 16 h. to 18 h. 20 h. to 22 h.

It must be distinctly understood that the foregoing suggested schedule does not prevent the Master from causing the Radio Operator to stand any schedule of watch which the Master may consider necessary for the transaction of the ship's business.

Compliance With Regulations for Communication and Correspondence

188) The Radio Operator shall make himself thoroughly familiar with the provisions of Chapter VI, "Correspondence, Communication and Ship's Records," of these regulations and shall conduct all radio business accordingly.

Section X—Pumpman

Assignment of Pumpman to Duty

(189) The Pumpman shall be under the direction of the Deck Department from twenty-four hours before starting to load, discharge or clean tanks until twenty-four hours after the completion of such work. At other times he shall be under the direction of the Engine Department for the repair and upkeep of the cargo system, but the Pumpman shall not be detailed by the Engine Department to any work not connected with the repair and upkeep of the cargo system.

Chapter III

GENERAL REGULATIONS

Section I—Disciplinary Matters

Reports to Superiors

(190) It is the duty of any officer to inform his superior of any knowledge he may have of circumstances that might not have come to the attention of such superior officer in the formulation of an order or in the general administration of the ship. In fixing responsibility for accidents and violations of duty, the Management will always consider whether the subordinate officer has served his superior intelligently by placing before him all information known by the subordinate officer.

Dishonest Practices

(191) Dishonest practices of any nature whatsoever will be punished by immediate dismissal followed whenever possible by prosecution by law.

Acceptance of Gratuities

(192) No person in the employ of the Marine Department is permitted to accept any gratuity whatever from any person or firm doing business directly or indirectly with the Standard Oil Company (N. J.). Any violation of this article will be followed by immediate dismissal.

Alcoholic Liquors

(193) No alcoholic liquors whatsoever shall be used or carried aboard any vessel operated by this Company. Any evidence of the use of alcoholic liquors aboard ship by any person, whether or not such person is attached to the ship, shall be immediately investigated by the Master who shall confiscate any liquor found and forward a full written report of the circumstances to the Manager.

Any violation of this regulation will be followed by immediate dismissal.

Smuggling and Private Trading

(194) Smuggling or private trading is strictly prohibited and any violation of this regulation will be followed by immediate dismissal and whenever possible by prosecution in the civil courts.

Section II—Safety Precautions

Acting to Safeguard Vessel and Personnel

(195) Nothing in these regulations shall be construed to prevent any officer from taking whatever action may be found necessary to avoid casualty to the ship or the personnel in the presence of danger.

Smoking and Use of Naked Lights

(196) Smoking on the weather decks or on the docks adjacent to the vessel is strictly prohibited under all circumstances, except that the Master may, at his discretion, permit smoking on the bridge or boat decks and on the upper deck abapt the funnel.

Under no circumstances, however, shall there be smoking anywhere on deck while the vessel is alongside the dock.

Smoking in quarters and elsewhere aboard ship shall be allowed only under such conditions as the Master may prescribe.

Naked lights shall not be used anywhere in the ship.

"No Smoking" signs shall be conspicuously displayed about the vessel.

Record of Safety Appliances

(197) There shall be posted at all times in the officers' messroom one copy of Safety Appliances—Record of Location and Inspection (Form No. S-194). The data required on this form shall be promptly and accurately entered and the Master shall be responsible for the maintenance of this record.

Fire Hose and Fire Axes

(198) The Heads of Department are responsible that there is an adequate supply of fire hose in the proper locations as specified by Safety Appliances—Record of Location and Inspection and that this hose is properly fitted with nozzles and couplings and neatly stowed on the reels or racks provided for that purpose.

The Heads of Department are responsible that fire axes are located in their proper racks and that they are not used for any except emergency purposes.

Fire Extinguisher Equipment

(199)

1. *Hand Equipment*

The following regulations covering the location and upkeep of hand fire extinguishers shall be standard for all vessels:

	Number	*Type*
On bulkhead outside Paint Locker	1	Chemical
On bulkhead outside First Mate's Quarters	1	Chemical
On bulkhead in Chart Room	1	Chemical
On bulkhead in After Officers' Mess Room	1	Chemical
On bulkhead near Firemen's Forecastle	1	Chemical
On bulkhead in passageway to Petty Officers' Quarters	1	Chemical
On bulkhead in Galley	1	Chemical
On outboard bulkheads in Fire Room	2	Foamite
On bulkhead in Engine Room near entrance to Fire Room	1	Foamite

On bulkhead in Engine Room near log desk.....	1	Foamite
On center line bulkhead in Pumproom on pump level.....	1	Foamite

Extinguishers shall be carried in the racks supplied for that purpose.

The Master and Chief Engineer shall be responsible for the maintenance of all extinguishers, charged and ready in place; located in their respective departments and they shall carry at all times one spare charge for each hand extinguisher under their supervision.

2. *The Foamite System*

(a) The Foamite System shall be kept in readiness at all times with sufficient hose connected and reeled all clear for running, to reach all parts of the Boiler Room and Engine Room.

(b) Whenever it becomes necessary to replenish the supply of the "A" or "B" solutions the ingredients shall be mixed in strict accordance with the printed instructions. The importance of proper mixing cannot be exaggerated since the effectiveness of the Foamite is largely dependent on the proper preparation of the individual solutions.

(c) The main control valves and the hose control valves shall normally remain closed; the block valves immediately below the tanks shall normally be locked open with padlock and chain.

(d) In order to prevent clogging of valves the system shall be tested monthly by closing the block valves and allowing the solutions retained in the lines to drain. After this test any part of the system that will remain free of solution shall be flushed with fresh water.

(e) Spare charges of chemicals for both "A" and "B" solution shall be kept in covered containers and carefully stowed on raised platforms in a dry place. The location of chemicals together with that of all accessory equipment shall be clearly indicated on Safety Appliances—Record of Location and Inspection (Form No. S-194) in order to facilitate periodic inspection by the shore staff and the manufacturer's representative.

3. *The Lux System*

(a) The Lux System shall be kept in readiness at all times.

(b) The cylinders should be removed from the racks and weighed once each year, preferably at the time of Annual U. S.

Steamboat Inspection, and a record of weights made in ship's log. All cylinders containing less than 35 lbs. of carbon dioxide must be recharged. When discharged for purpose of extinguishing fire, cylinders should promptly be recharged. Cylinders contain 50 lbs. when recharged.

(c) All cylinders must be kept at a temperature below 120° F. and must be kept tightly connected to the manifolds. All quick releases must be kept connected together by their respective levers and rods, which are connected to the control handles. No obstacles should prevent the levers from operating through about 120°. All cylinder valve stems are to be kept tightly closed and sealed with caps. The valves on the distributing lines to cargo tanks must all be kept open in the same manner as with steam smothering line valves. Distributing lines should be blown out once a year to insure that they are not stopped up.

The Chief Engineer is responsible for the maintenance and upkeep of the Foamite or Lux System, but the Master shall require all officers of the vessel to acquaint themselves with the location and operation of same.

Smothering Lines to Cargo Tanks

(200) The Heads of Department shall take particular pains to assure that all members of their respective departments whether officers or crew, are thoroughly familiar with the operation of the steam smothering system.

The smothering line to cargo tanks shall be set in the following manner:

1. Main control valve shut.
2. Valves into individual tanks open at all times.

The position of the main control valve shall be indicated by a large sign with pointer arrow painted on a conspicuous bulkhead.

Boiler Room Sand Bin

(201) An open bin containing at least fifty gallons of clean sand and two large scoops shall be maintained in the boiler room. Nothing but sand shall be stored in this bin and it must be kept clean of refuse and waste.

Stowage of Oily Rags

(202) Oily rags shall not be stowed or carelessly thrown in any places where their presence might prove dangerous through risk of spontaneous combustion. All officers shall take particular pains when inspecting their parts of the vessel to eliminate such accumulations of refuse and all other fire hazards, paying particular attention to the cleanliness of inaccessible places.

Use of Electric Lights in Cargo Tanks or Pump-rooms

(203) Under no circumstances shall portable electric lights, having cable attachments, be used in any tank or compartment where oil has been carried or in any compartment the bilges of which have contained oily water, except when a Gas Free Certificate (Form No. S-50) has first been obtained stating that the space is gas free and "Safe for Men and Fire."

If it becomes necessary to enter a tank where there is a possibility of gas being present, a self-contained flashlight of a type approved and furnished by this Company and no other kind shall be used.

Electric Wiring and Equipment

(204) In port all rearrangements or new installation of electric wiring or electric equipment shall be made under the supervision of the Construction and Repair Division. If at any time it becomes necessary to run electric wires or install additional fixtures at sea the work shall be done under the supervision of the Chief Engineer who shall assure himself that the installation is in accordance with established safe practice and does not constitute a fire hazard.

Cleaning Tanks and Permitting Men to Enter Tanks

(205) Under no circumstances shall any cleaning operation be carried out in any tank that has contained cargo or bunkers without a strict compliance with the provisions of Section 2, Chapter V.

Under no circumstances shall a man be permitted to enter any tank in which oil has been carried and which is not covered by a Gas Free Certificate, stating that the compartment is gas free and safe for men, unless such a man is protected by the pure air apparatus and fitted with a suitable life line tended by a licensed officer and two men on deck.

The following signals shall be pre-arranged between the officer tending the life line and the man entering the tank.

Four pulls	Haul out
Three pulls	Take in slack
Two pulls	More slack
One pull	O. K.

The officer tending the line on deck shall give "O. K." signals at short intervals, and if no response is received the man shall be hauled out of the tank immediately.

Use and Maintenance of the Pure Air Apparatus

(206) The Master shall be held personally responsible for the upkeep and use of the Pure Air Apparatus.

The Master shall assure himself that all officers and petty officers thoroughly understand the use and operation of this gear. Practical demonstrations shall be made at least once a month showing the method

of adjusting the mask and operating the air supply in accordance with the printed instructions supplied with the apparatus. The Pure Air Apparatus shall be carefully inspected at this time in order to assure that it is in good condition and entry of the result shall be made in red ink in the Smooth Deck Log Book (Form No. S-132).

Artificial Respiration Use of Inhalator

(207) Artificial Respiration Placards (Form No. S-416) shall be conspicuously posted under glass in all Mess Rooms, Pump Room, in alleyways leading to crew's quarters, midships house and Engine Room, and the entire personnel will be given a demonstration whenever a boat drill is held of the proper procedure for applying artificial respiration.

Artificial respiration shall be promptly resorted to in the case of any person apparently drowned or suffering from electric shock, strangulation, or suffocation from gas or other causes. Such treatment shall be supplemented whenever considered advisable by the Master, or officer in charge in the absence of the Master, by the use of the H. H. Inhalator. Treatment by artificial respiration with or without the inhalator shall be continued for as long as appears advisable in the opinion of the Master or officer in charge.

The H. H. Inhalator shall at all times be maintained in proper working condition and held in readiness for immediate service.

Use of Goggles

(208) Officers shall be responsible that the men working under their orders are issued goggles whenever engaged in work that is dangerous to the eyes. Care shall be exercised in the use of goggles to avoid the spread of infectious diseases. They should be cleaned after use by soaking in solution of one part carbolic acid to forty parts water.

Men Over the Side

(209) Under no circumstances shall a man be permitted to go over the side for any purpose whatever while the vessel is under way, unless he is fitted with a suitable safety line tended on deck. Men shall not be put over the side when the vessel is in dry-dock except in cases of necessity.

Life Lines on Deck

(210) Special life lines shall be stretched on the weather decks whenever the ship is in a rough sea if men are required to work on or pass along decks exposed to the sea.

Safety Devices and Water Tight Doors

(211) All safety devices and water tight doors shall be carefully inspected by the Heads of Department responsible and maintained in a condition of instant readiness. The gaskets on water tight doors shall be kept free of paint and grease.

Fire and Boat Drills

(212) Fire and boat drills shall be held weekly and an appropriate entry of the fact shall be made in red ink in the Smooth Deck Log Book (Form No. S-132).

On the occasion of fire and boat drills the Master and Chief Engineer shall personally inspect all fire fighting and life-saving equipment under their respective supervision and shall assure that such equipment is in good condition and ready for immediate use.

Stations for Fire and Boat Drill shall be assigned in accordance with the Standard Fire and Boat Station Bill (Form No. S-425).

Engine Room Safety Precautions

(213) The Chief and Assistant Engineers are held personally responsible, at all times, for strict compliance with the following Safety Precautions:

1. *Clean Bilges*

   Engine room and fire room bilges shall be inspected at frequent intervals by the Engineer-on-Watch. If any oil leak is discovered, it shall be immediately traced and stopped and the bilges washed free of oil. All drip pans shall be dumped at sufficiently frequent intervals to prevent overflow.

2. *Oil in Furnaces*

   If oil accumulates in the bottom of a furnace through accident or neglect, the air checks shall be opened and the gases thoroughly blown out before any attempt is made to light off a burner.

3. *Safety Valves*

   The hand lifting gear for safety valves shall be kept clear and maintained in an operating condition at all times.

4. *Opening Boilers*

   Before removing any fittings or parts of a boiler subject to pressure after the boiler has been under steam, the air cock shall be opened to insure a complete absence of pressure.

5. *Men Entering Boilers*

   Men shall not be permitted to enter a boiler until all burners have been removed and signs reading "Danger, Men in Boiler" have been hung on the front and back ends, and in the uptakes near the stop valves.

6. *Boiler Steam Gauges*

   Close observation shall be made of the accuracy of the boiler steam gauges and they shall be tested with the standard testing outfit at least once each voyage.

7. *Freezing of Equipment*

Whenever the temperature on deck or in the machinery spaces falls below 40° F., the equipment shall be guarded against freezing by turning steam on the deck lines, continuously running all deck machinery and circulating water under pressure through all water lines.

Section III—Accidents

Admission of Liability

(214) Under no condition shall the Master or any other member of the ship's company admit liability of the Standard Oil Company (N. J.), the vessel or any of the personnel of the Standard Oil Co. (N. J.), for any accident or damage that may have occurred.

Investigations to Establish Facts and Fix Responsibility After Accidents

(215) Whenever an accident occurs which affects to the slightest extent whatever the property or personnel of the Standard Oil Company (N. J.), either as the party injured or the party causing injury, the Master shall investigate as soon as possible all the cirumstances surrounding the accident with the view of determining all the facts of the case, the cause of the accident and the responsibility of personnel.

For this purpose the Master shall interview all witnesses of the accident, including whenever possible all such witnesses who are not attached to the vessel, and, in cases which involve any considerable injury to personnel or any considerable damage to property, the Master shall obtain written statements as far as possible from all witnesses.

Entry of Accident in Log

(216) A complete summary of the actual facts concerning an accident which have been established by the Master's investigation shall be entered in the Rough Deck Log Book (Form No. S-132) and if injury to personnel is involved the fullest details and medical record of such injury shall be entered in the Medical Log (Form No. S-362).

Reports of Accidents

(217) As soon as possible after investigation of an accident, the Master shall make a report of the essential details and facts by wire or radio to the Manager. This advice shall be followed by a letter giving full and complete details and enclosing written statements signed by witnesses and showing their residence and mailing addresses.

Whenever the Engine Department is either directly or indirectly concerned in an accident, both the Master and the Chief Engineer shall submit individual reports of the occurrence, preferably at the same time, and the Chief Engineer shall include in his report all facts which bear on the accident from a purely engineering point of view.

The written report must contain a complete statement of all the facts which bear directly or indirectly upon the accident and must clearly show the cause of the accident and the Master's opinion as to responsibility.

In addition to the written report, the Master shall submit in the case of a collision a fully prepared Collision Report (Form No. S-231) and shall prepare and attach to the written report rough sketches whenever necessary to clearly describe the situation.

Whenever an accident involves injury to personnel, the Master shall fully prepare and forward, in addition to the written report, a Report of Personal Injury, Illness or Death (Form No. 44-U) for each case of personal injury that has occurred.

Notes of Protest (218) A Note of Protest (Form No. S-198) shall invariably be executed whenever during the course of a voyage, bad weather has been encountered or any accident of any nature has been sustained which has occasioned any apparent damage whatever or which may subsequently be found to have caused damage to vessel or cargo.

A Note of Protest shall be executed not later than twenty-four hours after arrival at the first port, or after the occurrence of the accident if the vessel is in port, unless facilities for doing so are not available, in which case protest shall be noted within twenty-four hours after arrival at the next port.

Under no circumstances shall the Master specify in the Note of Protest any damage that has been sustained. The words "fearing damage" are adequate to afford proper protection and any specification of damage appearing in the Note of Protest may prejudice the interests of the ship.

Under no circumstances shall a Note of Protest be extended (detailing damage), without authority of the Manager or the Company's Agent.

Survey and Seaworthiness Certificate (219) Whenever an accident has resulted in apparent damage beyond the capacity of the ship's force to repair, or when the circumstances are such that damage not immediately apparent may later be discovered, the Master shall arrange to hold a survey and secure a Certificate of Seaworthiness before proceeding to the next port of arrival.

Whenever any outside party is involved in the accident which has made it necessary to hold a survey, such party shall be notified of the time and place at which the survey will be held and invited to have a representative present.

The surveyors shall whenever possible be representatives of the Classification Society with which the ship is classified, but if no representative of this Society is available, surveyors representing some other Classification Society shall be called upon or the survey shall be made by two other ship masters. If, however,

the survey is made by ship masters in a foreign port, the American Consul shall be requested to appoint the surveyors.

Whenever a vessel of this Company is invited to have a representative present at the survey of another vessel or property, the Master shall attend without prejudice and without any admission of liability whatsoever.

Notification of Responsibility for Damage (220) Whenever a vessel suffers any damage, expense or delay by an accident in which any outside interest or party is involved, the Master shall notify such outside party or interest in writing, if possible, that he holds them responsible for any and all damage sustained by his command, and the Master shall forward a copy of this letter to the Manager attached to the written report of the accident.

Proceeding After Accident (221) Whenever a vessel suffers damage, every possible effort shall be made to effect repairs that will enable the vessel to continue the voyage to the port of destination rather than return or put into any other port, if, in the judgment of the Master, the condition of the vessel will enable her to proceed without undue risk to personnel, ship or cargo.

If the Master is in doubt of the vessel's seaworthiness, however, he shall put into the nearest port and wire full information to the Manager, requesting instructions.

Jettisoning Cargo (222) If an emergency necessitates the jettisoning of cargo, it is essential that full information as to the grade of cargo, the number of tanks pumped and the ullages before and after pumping be entered in the Rough Deck Log Book (Form No. S-132) provided the circumstances permit this procedure. Special note should be made as to whether the tanks were leaking prior to or after jettisoning cargo.

Where practicable in jettisoning cargo through deck discharge line, care should be exercised to have the cargo discharge hose well over the ship's side, extending, if possible, below sea level, in order to minimize risk of fire and danger from gas.

If the cargo is pumped from one vessel to another both vessels shall take ullages of their tanks before starting and after finishing pumping and entries of the ullages shall be made in the respective Deck Log Books of the vessels.

Should emergency conditions prevent ullages being taken before commencing to pump cargo, either overboard or into another vessel, ullages shall be taken as soon after finishing pumping as possible and noted in the Deck Log Book, together with the ullages that were taken at the loading berth.

In addition a record shall be made in the Deck Log Book of the cargo line valve settings, the time required to jettison cargo, the time of operation of the pumps, the draft of the vessel before and after discharging cargo and any other pertinent particulars that will assist in adjusting the accounts of the vessel.

Salvage (223) Vessels of this Company that have suffered accident shall not call upon outside assistance, except when in distress or when necessary to prevent further serious damage, but shall in all cases state in the telegraphic advice to the Manager the location of any assistance available.

In cases of extreme emergency when salvage is necessary to a vessel of this Company and when time does not allow of communication with the Manager, the Master shall endeavor to secure the necessary assistance on the basis of Lloyd's "No Cure No Pay" Salvage Contract and this form shall be executed in each case.

In case a vessel of this Company is involved in salvage operation, assisting another vessel, no agreement shall be made upon any basis other than a settlement by owner's arbitration or by the decision of the United States Court, Southern District, New York.

General Average (224) When a vessel is carrying cargo for another Company and meets with expenses of a general average nature, such as towing, jettisoning of cargo, expenses incurred through refloating, salvage charges and other expenses incurred to save or protect the interests of hull, cargo and freight, it is necessary for the Master through the Agent, to require the consignee or cargo owner to sign an average bond guaranteed by an Insurance Company, Bank or other responsible firm represented in the United States or United Kingdom before the cargo is delivered.

This bond shall contain an agreement that the statement of average shall be prepared in New York in accordance with the terms of the bill of lading.

General Average expenses are chargeable to the various interests involved, that is, hull, cargo and freight, but without an average bond the Company may be unable to recover the amount due from cargo interests.

Expenditures Incurred Through Accidents (225) An accurate record of expenditures of fuel, water, Deck and Engine stores, deck gear, etc., either through normal consumption, loss or damage incurred as a result of accident or stress of weather, together with the time lost by the vessel, if any, shall be kept in the Rough Deck Log Book (Form S-142) and reported by letter to the Manager when the emergency is past.

Section IV.—Personnel and Passengers

Officers and Crew Leaving the Ship (226) No permission to leave the vessel at an outport shall be granted by any Head of Department without the authority of the Master.

No officer or unlicensed man is permitted to leave the vessel at an outport without the authority of his Head of Department. Whenever leave is

granted, the time that the man must return shall be distinctly stated to him, and in addition there shall be posted at the gangway a blackboard on which shall be written in large characters the day and hour at which the ship sails.

Promotions to Licensed Grades

(227) It is the policy of the Company to fill vacancies at the top from men already in the service. It is, therefore, to the best interests of officers and unlicensed men to obtain licenses for the next higher rating as soon as they are qualified to do so in order that they may be available when a vacancy occurs.

Whenever an officer is ready to apply for examination for the next higher license, he shall report to the Personnel Section of the Operations Division if in the port of New York, or to the Master if at an outport, and every possible facility consistent with the requirements of business will be granted the applicant to present himself for examination.

Officers and unlicensed men who obtain higher licenses should promptly notify the Manager in writing in order that their records may be corrected accordingly and that their names may be considered when eligible for promotion.

Vacations

(228) Licensed Officers and Stewards having twenty-four months continuous service are entitled to a vacation of four weeks with pay every two years. Application for vacation shall be made to the Master who shall forward the application to the Manager at least one voyage previous to the time when the requested vacation is to commence.

Unlicensed men, who have had twelve months continuous service are entitled to a vacation of one week with pay each year and application shall be made in the same manner as specified above for Licensed Officers and Stewards.

Periodical Physical Examination

(229) In order that seagoing personnel may qualify for the benefits provided by the Annuities and Benefits Plan, they must submit to a periodical physical examination as required by the physicians of the Company or its Agents at the ports of New York, Baltimore, Md., Charleston, S. C., and Baton Rouge, La.

Any member of a ship's company who declines to submit to such examination, when requested to do so, cannot be retained in the employ of the Company.

Engaging and Discharging Licensed Officers and Stewards; Physical Examination, New Personnel

(230) As far as practicable all Licensed Officers and Stewards shall be engaged and discharged through the Personnel Section of the Operations Division.

Masters desiring to engage or discharge Licensed Officers or Stewards shall first obtain, by wire or letter, the authority of the Management, except in special cases when the Master considers that independent and immediate action is necessary to preserve discipline, avoid delay of the ship, or otherwise serve the best interests of the Company.

Whenever a Master engages a Licensed Officer or Steward he shall give the applicant to understand that his appointment is temporary because all permanent assignments are based upon seniority and ability demonstrated in service with this Company.

Before being offered employment, new personnel, licensed or unlicensed, shall, whenever possible, be examined by a Company physician to assure that they are physically sound and not suffering from contagious diseases.

Applications for Employment

(231) Whenever a licensed officer, steward or petty officer is engaged at an outport, the Master shall require him to fill out an Application for Employment (Form No. 14) which shall be forwarded by the Master to the Manager. All personnel engaged at outports shall, if possible, be secured through the Agent.

Calls of Masters and Chief Engineers on the Manager

(232) All Masters and Chief Engineers shall call on the Manager and Assistant Manager at their offices at least three times a year for the purpose of discussing general questions of operation. These calls will be considered as official duty and entries of the date on which they are made will be entered on the register by the Secretary to the Manager.

Unofficial Association of Officers With Unlicensed Personnel

(233) For the maintenance of discipline the Master and Chief Engineer will not permit the unofficial association of officers with unlicensed personnel aboard any vessel operated by this Company.

Wages

(234) In computing wages, a fraction of a day shall be considered a whole day except when a man is engaged on the afternoon of one day and discharged during the forenoon of another day, then the two fractions shall be considered one day.

A month's wages shall be reckoned as from a given date in one month to the next preceding date in the following month.

From the first to the last day (inclusive) of a given month equals one calendar month, irrespective of the number of days in the given month.

When a man has been engaged after twelve noon, it should be arranged, if possible, that he be discharged before twelve noon on his pay-off day, which will make his time even days.

Employment of Aliens in Foreign Port

(235) The Master shall carefully scrutinize the credentials of all men employed in foreign ports in order to determine beyond question that they are bona fide seamen and have seamen's passports in their possession.

Reporting Desertions in Foreign Ports

(236) Before leaving a foreign port the Master shall forward to the American Consul a written report copy to the Agent stating the circumstances of each case of desertion that has occurred in that port and plainly stating that the name of the deserter and the circumstances of each case have been entered in the Official Log (Gov't. Form). If the crew cannot be accurately accounted for when the vessel is ready to sail, this report may be forwarded by mail via the Pilot Boat.

Stowaways, Workaways and Consular Passengers

(237) The Master shall be responsible that a thorough search is made for stowaways before communication with the shore is ended at the beginning of a voyage.

As a general policy the Management does not approve signing on workaways, but Masters may sign men on in this capacity when special or unusual conditions render such action to the best interests of the company. The Master cannot be required by Consul or other Government Agent to carry a workaway, and under no circumstances shall a man be signed on in this capacity without definite proof that he is an American citizen except upon written request of the company's agent.

Consular passengers provided with Consular Form No. 24, authorizing the payment of passage money as provided by law for their transportation, shall not be signed on the Shipping Articles. In the cases where the Master is in need of a seaman and a destitute seaman is available who is capable of performing the services required, Consuls will sign such a seaman on the Shipping Articles but in such cases, however, the seaman will not be provided with Consular Form No. 24.

A release shall be obtained from workaways and consular passengers.

Continuous Discharge Books

(238) When unlicensed men are engaged by the Company's representatives ashore each man will be furnished with a Continuous Discharge Book (No Form number). These books shall be taken up when a seaman joins the vessel and shall be retained by the Master until the completion of the voyage or the discharge of the seaman at which time each book shall be returned, properly marked, to its owner.

In the event of a seaman failing to join the vessel after delivering his Continuous Discharge Book, or in case of the man leaving the vessel without authority, the Continuous Discharge Book with all appropriate entries shall be forwarded to the Manager.

A Certificate of Discharge must be furnished each man paid off, in addition to the Continuous Discharge Book, if carried, whether or not the man is paid off before a United States Shipping Commissioner. If the man is paid off before a Shipping Commissioner, the Certificate of Discharge (Gov't. Form) shall be furnished, but if no Shipping Commissioner is present a Coastwise Certificate of Discharge (Form No. S-241) shall be used.

Handling Intoxicated Seamen

(239) No seaman or other person, who is intoxicated, shall be permitted to board or leave the ship except under the supervision of an officer who shall see that the man is properly assisted to avoid accident.

When a member of the crew is drunk aboard ship, the Master shall relieve him of all responsibility and authority until such time as he has become sober. The Master shall also take whatever measures may be necessary to have a drunken man kept under observation until he is sober, and is no longer liable to cause injury to himself or to the equipment of the ship.

Passengers

(240) When under way no persons other than the crew, officials of the Company and passengers accredited by the Company or its agents shall be allowed aboard the vessel.

A steamer is prohibited by Act of Congress from carrying fifty or more persons unless the radio apparatus of such steamer is manned by two or more licensed operators. The steamers of this Company carry only one Radio Operator, and are, therefore, prohibited from having more than forty-nine persons aboard, except upon written authority from the United States Local Inspectors, an American Consul, or a Diplomatic Representative of the United States. Masters shall be guided by this law whenever passengers are signed on.

In order to avoid making out passenger lists, each person, except Consular Passenger, in addition to the regular crew, shall be required to sign on the Ship's Articles as purser, supercargo or other crew rating at a monthly wage of one cent, but it shall be understood that the passengers are not required to do any work except in cases of extreme emergency.

The Master or the Agent shall obtain a release from each passenger (in the case of minors, from the guardian or person with whom the minor is traveling) on Passenger's Release (Form No. M-867). In every case care shall be exercised to specify in this release the grade of cargo carried. This form shall be made out and signed in triplicate; one copy shall be for the Agent, one mailed to the Manager prior to the vessel's sailing, and the remaining copy shall be retained aboard.

Whenever passengers are carried, the Master will be furnished with a letter from the Company or its Agent authorizing the passages, and this letter will state whether the passengers shall be carried at the regular rate of $4.00 per day or the complimentary rate of $2.00 per day.

Whether passengers are carried at the $4.00 per day rate or at the $2.00 per day rate, the Master shall, if the service has been satisfactory, distribute $2.00 per day for each passenger carried in the following ratio:

Steward	$ 0.75
Chief Cook	0.55
2 Messmen	0.35 each

In case only one messman serves the passengers, only that messman shall be paid, and he shall receive 70 cents per day for each passenger carried.

In cases where the charge of $4.00 per day is made, $2.00 per day for each passenger shall be forwarded by the Master to the Manager.

Visitors Aboard Ship in Port

(241) When a vessel is in port, the Master, First Mate, Chief Engineer and First Assistant are privileged to entertain their wives aboard ship as guests. This authorization shall not be extended to include children, relatives or friends without special permission of the Local Agent.

Section V.—Operating Matters

Sea Passages

(242) A sea passage is that part of a voyage between the departure from the entrance of one port to the arrival at the entrance of another, and the following list shows the specific points at which the sea passage will be considered to start and terminate at each of the ports designated.

At ports not designated on the attached list, the Master shall use a Sea Buoy, Light Ship or any other suitable point, and shall clearly describe in the Abstract of Deck Log (Form No. S-56) the point used.

North American Ports

Montreal	*Father Point*
Halifax	*Sea Buoy No. 2*
Boston (Everett)	*Boston Light Ship*
New York	*Ambrose Light Ship*
Philadelphia (Chester), Marcus Hook, Paulsboro	*Overfalls Light Ship*
Norfolk (Newport News-Sewells Pt.), Baltimore	*Sea Buoy*
Charleston	*Sea Buoy*
Wilmington	*Sea Buoy*
Savannah	*Sea Buoy*
Jacksonville	*St. Johns Bar*
Key West	*Sea Buoy*
Tampa	*Sea Buoy*
Havana	*Sea Buoy*
New Orleans, Baton Rouge, St. Rose	*South Pass Light Ship or Southwest Pass Seabuoy*

Sabine, Beaumont, Port Arthur	*Sea Buoy at Sabine Pass*
Galveston, Texas City, Houston, Baytown	*Sea Buoy at Galveston*
San Francisco	*Pt. Bonita abeam*
San Pedro	*Breakwater*
San Diego	*Sea Buoy*
Vancouver, Ioco	*Race Rocks*

Panama Canal

Atlantic Side	*Breakwater*
Pacific Side	*Sea Buoy*

Mexican Ports

Tampico		*Off Breakwater*
Guayabalillo	Cortes Oil Co. / La Atlantica	
Palo Blanca, Chorrera, Mata Redonda, Tecomate	Port Lobos	*In Roadstead abreast loading terminal*
Tuxpam		*In Roadstead abreast loading terminal*

South American Ports

Talara	*Sea Buoy*
Lobitos	*Sea Buoy*
Arica	*Sea Buoy*
Iquique	*Sea Buoy*
Pisagua	*Sea Buoy*
Antofagasta	*Sea Buoy*
Taltal	*Sea Buoy*
Bahia Blanca	*Lt. Ship*
Caleta Buena	*Sea Buoy*
Tocopilla	*Sea Buoy*
Valparaiso	*Sea Buoy*
Buenos Aires	*Recalada Lt. Ship*
Campana	*Recalada Lt. Ship*
Montevideo	*Recalada Lt. Ship*
Rio Grande do Sul	*Sea Buoy*
Rio de Janeiro	*Sea Buoy*

West Indian Ports

Cienfuegos	*Sea Buoy*
Nuevitas	*Sea Buoy*
Matanzas	*Maya Point (Buoys unreliable)*
Antilla	*Sea Buoy*
Guanica	*Sea Buoy*
Ponce	*Sea Buoy*
Santiago	*Sea Buoy*
Curacao	*Sea Buoy*
St. Thomas	*Sea Buoy*

European Ports

Helsingborg	*Breakwater*
Nyborg	*Sea Buoy*
Stockholm	*Sea Buoy*
Rotterdam	*Maas Lt. Ship*
Hamburg	*Lt. Vessel Elbe No. 1*
Antwerp	*Sea Buoy*
London	*Sea Buoy*
Brest	*Sea Buoy*
Lisbon	*Sea Buoy*
Gibraltar	*Anchorage*
Marseilles	*Sea Buoy*
Genoa	*Sea Buoy*
Leghorn	*Sea Buoy*
Catania	*Sea Buoy*
Bergen	*Marsten Lt. House*
Karlshamn	*Sea Buoy*
Copenhagen	*Sea Buoy*
Gothenburg	*Sea Buoy*
Harstad	*Sea Buoy*
Havre (Rouen)	*Sea Buoy*
Helsingfors	*Sea Buoy*
Malmo	*Sea Buoy*
Nordenham	*Weser Lt. Ship*
Savona	*Sea Buoy*
Steilene	*Sea Buoy*
Trieste	*Sea Buoy*
Messina	*Sea Buoy*
Vallo	*Off Faerder*
Venice	*Sea Buoy*

Arrival. A vessel shall be considered to have arrived when the designated point is abeam or the vessel is in its immediate vicinity. In case it is necessary through stress of weather, nightfall, or other causes for a vessel to lay off a port after the point marking the end of the sea passage has been raised, but before the vessel is in its immediate vicinity, the voyage shall be considered as terminated at such time as the vessel is hove to, and the resulting delay shall be considered to have occurred subsequent to arrival, and therefore as time in port.

Time of Arrival shall be in local apparent time and any change to the standard time of the port shall be made subsequent to arrival, but prior to docking. It is essential that the time of arrival be accurately determined and that identical entries of this item be made on the Abstract of Deck Log (Form S-56) and the Engineers' Abstract of Log (Form S-49) and on the Port Log (Form S-61).

Departure shall be taken from the same point used for arrival, shown opposite the various ports on the foregoing list.

Time of Departure shall be in local apparent time and the change, if any, from the standard time of the port shall be made prior to departure, but after leaving the dock, so that in all cases when time has been changed after arrival to the standard time of the port, a change of equal amount, but opposite in direction will be made before departure, or beginning of the next sea passage, and such changes from local apparent time to standard time, and from standard to local apparent time will appear on the Port Log and the Abstracts of Logs, and must be identical.

The Port Log shall comprise a complete and accurate account of all time between arrival at and departure from the designated point. All delays shall be reported, stating time lost due to each separate cause. Special care must be taken to furnish accurate pumping data (Port Log Item No. 11).

If the Master is for any reason in doubt as to the proper time and point to use for the beginning or end of a sea passage he shall comply as closely as possible with the intention of these instructions and then communicate with the Manager, stating definitely the time and point that were employed.

The Master shall signal the Engine Room at time of arrival and of departure.

Tests of Steering Gear (243) On each occasion before getting under way, the steering gear shall be thoroughly tested from the bridge in such manner that the rudder shall be run from amidships to hard over in both directions. A Mate shall be on the bridge during this test and an Engineer shall be in the steering engine room. At the time of this test a thorough inspection shall be made of the telemotor system by an Engineer and any adjustments necessary shall be completed before the vessel gets under way.

The same procedure for testing the steering gear and inspecting the tele-

motor system shall be made on each occasion before the vessel enters restricted waters, if weather conditions permit.

The hand steering gear shall be tested out at each overhaul period by actually moving the rudder with the hand gear from hard over starboard to hard over port.

An entry of each test of the steering gear and telemotor system shall be made in the Rough Deck Log Book (Form No. S-132) and Smooth Engineer's Log Book (Form No. S-126) in red ink.

Complete relieving tackle shall be kept ready at hand at all times and this gear shall be inspected and thoroughly checked up by the Master whenever the hand steering gear is tested out, and an entry of this inspection shall be made in the Deck Log Book (Form No. S-132) in red ink.

Trying Out the Main Engines (244) The main engines shall be tried out on each occasion before getting underway and the Chief Engineer shall notify the Master (or First Mate) at least thirty minutes in advance so that the Master (or First Mate) can properly secure the ship and station a man aft to see that the propellor is all clear.

After the Master (or First Mate) has been notified, a Mate shall be stationed on the bridge and an Assistant Engineer at the throttle. The Assistant Engineer shall, when ready to turn over the engine, ring "stand by" on the telegraph. When this signal is answered from the bridge, it shall be considered an indication that the Deck Department is ready, and the Assistant Engineer shall then turn the engines indicating the speed and direction on the telegraph, and using the utmost care not to subject the lines to undue strain.

Dock Trials (245) Whenever it is necessary to hold a dock trial, the Master or First Mate and the Chief Engineer shall be aboard and the Chief Engineer shall notify the Master (or First Mate) at least one hour in advance. The Master (or First Mate) shall then assure himself that the vessel is adequately made fast, paying particular attention to the number and position of the lines.

When the Master (or First Mate) has satisfied himself that the vessel is properly made fast he shall station himself on the bridge and notify the Chief Engineer, who shall be present in the engine room, that the ship is ready for dock trial. The Chief Engineer shall then proceed to operate the engines indicating the direction and speed at which they are moving by the engine room telegraph to the bridge, but the engines shall not be moved until the signals have been answered by the Master (or First Mate) from the bridge.

The Master (or First Mate) shall carefully watch the lines during the dock trial, and in the event any line is in danger of letting go, the Master (or First Mate) shall ring "stop" to the Engine Room which shall be immediately complied with.

Gangways and Pilot Ladders

(246) All officers are required to exercise the closest attention to assure that gangways and pilot ladders are safely rigged.

The gangway shall be securely lashed in such fashion that it will not slip or surge, and no gangway shall be used which is not provided with rails or, in the case of a temporary gangway, with a hand rope. No gangway without treads shall be used except when it is in a level position and does not present a slippery footing. No planking shall be used for a gangway which will not support any load to which it may reasonably be subjected with a wide factor of safety.

No pilot ladder shall be lowered until it has been securely lashed on deck, and under no circumstances shall a pilot ladder be used which has one or more steps missing or broken or which has loose or worn seizings.

Heating Cargo

(247) When cargo is required to be heated for discharge, in accordance with the provisions of Article 278, the Master shall, upon leaving the loading port, inform the Chief Engineer of the temperature at which the cargo must be discharged at the port of arrival and the Chief Engineer shall be responsible for regulating the heating system throughout the voyage to attain the required temperature upon arrival.

Determining Temperature of Cargo or Bunkers

(248) The temperature of oil in any tank shall be determined by lowering a thermometer into the oil for a distance equal to one-half the depth and allowing it to remain there for a period of two minutes. The thermometer shall then be quickly withdrawn and its reading recorded.

Steaming Tanks

(249) When tanks are required to be steamed for any purpose whatever, the operation shall be under the direction and supervision of the First Mate who shall, however, keep the Chief Engineer fully informed of the requirements and progress of the operation in order that the Chief Engineer may regulate the boiler plant accordingly.

Circular Letters

(250) Circular Letters containing Port Information and information or instructions of a special nature not covered by these Regulations, will be issued to the Fleet from time to time in numerical order. The Master shall keep a complete file of such Circular Letters, and all instructions appearing therein shall be regarded as part of these Regulations and acted upon accordingly.

Amendments to the Marine Department Regulations

(251) Amendments or additions to these regulations (Form No. 33) will be issued to all the holders thereof in the form of printed slips which shall be pasted in every copy in proper numerical order.

Reports on Port Information

(252) Whenever any item of Port Information such as unusual conditions of draft in a channel or berth, the installation of new docks or pipe lines, or any other change in facilities at a port is observed by the Master or Chief Engineer, a full written report of the circumstances shall be made to the Manager.

Articles for Publication and Letters of Recommendation

(253) No person in the employ of the Marine Department shall publish any article touching in any way upon the activities, personnel or material of this Company without the approval of the Manager. Letters of recommendation concerning personnel, equipment or material of any kind used by this Company shall, under no circumstances, be issued by the Master or any member of the personnel without the approval of the Manager.

The Master may, however, when so requested by a member of the crew, furnish the individual with a written statement showing the capacity in which he served and length of time during which the man served under the Master's supervision, but this statement shall contain no further information.

Ship's Bulletin

(254) The Ship's Bulletin is the official publication of the Marine Department and any orders or instructions appearing on the Manager's Page thereof shall be considered official expressions and acted upon by all concerned accordingly.

All Officers are invited to contribute to the Ship's Bulletin, addressing their letters to the Editor, Ship's Bulletin, Marine Department, 26 Broadway. Such contributions will be considered unofficial communications, and any request to omit the name of the contributor in publishing an article will be strictly observed.

Receipts for Material or Services

(255) Receipts for any material furnished, or any services rendered shall be signed by the ship's officer who has actual knowledge of the delivery of such goods or service.

Masters shall not sign any contracts for work to be performed, or any bills showing amounts charged if this can be avoided. If bills showing rates and prices are handed to the Master for his signature he shall qualify the signature by a note on the face of the bill as follows:

> "Correct as to material and/or services furnished. Prices and rates subject to approval of owner or owner's agent."

Master SS

Combined Stock and Specification Book

(256) The combined Stock and Specification Book (Form No. M-492) shall be consulted in the preparation of all requisitions, and the instructions contained therein shall be considered a part of these regulations and complied with accordingly.

Pollution of Navigable Waters; Plugging Scuppers

(257) No oil, bilge water, ballast water, garbage or refuse shall be discharged overboard within the twelve-mile limit except in case of emergency to assure the safety of the ship. Whenever the circumstances necessitate the retention of ballast aboard a vessel until the arrival at a dock, the dock foreman shall be advised and arrangements made with him to discharge the ballast prior to loading cargo.

The Company's poster on this subject (Form S-131) shall be conspicuously displayed in the quarters.

Whenever cargo or bunkers are being received or discharged all scuppers from which a spill might flow shall be plugged oil tight with wooden plugs.

Painting Specifications

(258) All vessels shall be painted in strict accordance with the following specifications, except in special cases when a departure from these specifications is authorized by written permission of the Management.

The stock number from the Combined Stock and Specification Book (Form No. M-492) is shown abreast the color of each paint specified below, and these numbers shall be invariably used in the preparation of requisitions for paints.

Paint shall always be used as supplied, except in instances where the paint has thickened when it shall be properly thinned out with turpentine. Paint shall always be stirred up thoroughly before using.

In order to obtain uniformity in ready mixed paints, the officer in charge of any painting work shall carefully estimate the required quantity and should this exceed the contents of one container, the estimated quantity shall all be poured into a suitable container and thoroughly stirred before and after pouring to insure a uniform color throughout.

Surfaces Not to be Painted

Under no circumstances shall paint be applied to polished brass, copper insulated electric wiring (except when armored) the bearing edges of ports or water tight doors, rubber, galvanized iron, name plates, removable canvas work, or to similar surfaces where paint is neither a protection nor a decoration. Especial care shall be taken to see that no paint is applied to the threads of valve stems.

Preparing Surfaces for Painting

All metal surfaces shall be thoroughly chipped or scraped, wire brushed and, if bare iron or steel is exposed, red leaded, before painting.

Surfaces to be painted must be free from rust, grease, dirt, oil or salt, and must be perfectly dry before red lead or paint is applied.

Deck Department and Steward's Department

Part of Vessel	*Color*	*Remarks*
Exterior shell surface		
Up to load water line	Anti-corrosive composition	
Up to light load line	Anti-fouling composition	Over anti-corrosive

Part of Vessel	*Color*	*Remarks*
Between light and load lines	Red Boot-topping	
Above load water line	Grey Black (V47)	Including molding
Exterior bulwarks and fashion plates	White (V56)	Including bulwarks amidships on sheltered deck vessels.
Interior bulwarks and fashion plates	Green (V51)	
Top row of shell plates of forecastle head, bridge space and poop on well deck ships	White (V56)	
Masts, derrick posts, booms. flagstaffs and yards	Buff (V41)	Except mizzentopmast and mizzenmast above level of stack which shall be painted black (V29.) Where booms are wood scraped and oiled.
Standing Riggings and Smokestack guys	Wiped over with mixture of equal parts raw linseed oil and pine or Stockholm tar	Under no circumstances to be painted.
Smokestack	Black (V29) White (V61)	With white band and company's trade mark in blue (V34) and red (V38) on white band.
Galley Smokestack	Black (V29)	
Wheelhouse, chartroom and woodwork around navigating bridge	White (V56)	Except Teak, hardwood, margins and trim.
Hardwood	Spar Varnish (V87)	To include margins of wood decks and trim where the adjacent surfaces are painted.
Exterior surfaces of steel deck houses, companionways and light towers	White (V56)	
Ventilators inside and out	Buff (V41)	
Fore and Aft bridge and steel access ladders	White (V56)	
Exterior of hatch combings, and covers	Green (V51)	
Exterior of door frames, window frames, air port spigots and bottom bounding angles	Gray Black (V47)	
Rails, Stanchions and Pipe Guards	White (V56)	Except when galvanized and except all stanchions for lifting oil hatches shall be painted green (V51).
Wood Decks except as noted below:	Linseed Oil	
Deck on top of Engineer's Accommodations and on top of steering gear house	1/3 Pine Tar 2/3 Linseed Oil	

Part of Vessel	*Color*	*Remarks*
Exposed Steel Decks	1/3 Pine Tar 2/3 Linseed Oil	
Cargo Oil Piping on Deck	Green (V51)	
Boats and Davits	White (V56)	Exterior and interior of lifeboats.
Life Buoys	Four alternate equal sectors of red (V38) and white (V56)	Name of vessel to be stenciled on lifebuoys.
Name Letters	White (V56) Or Black (V27)	On the bow and stern and the port of registry on the stern. Letters 12″ in height.
Deck Machinery	Black (V27)	All non-working parts.
Cargo Pumps:		
Steam End	Black (V29)	
Liquid End	Buff (V41)	
Pump Rooms	White (V56)	Dado 36″ above floor plates black (V27)
Piping outside of Engine Room and Fire Room (excepting Pump Room)	To conform with adjacent structural surfaces	Except where piping is not contiguous to any surface in which case it shall be painted black (V29)
Piping in Pump Rooms:		
Manifolds and Oil Piping above the Floor Plates	Buff (V41)	Flanges of steam and exhaust lines black (V29)
Steam and Exhaust Lines	White (V61)	Copper or brass piping polished.
'Tween Deck and Shelter Deck Spaces; Space Under amidships house Forward dry cargo spaces	White (V56)	Deck 2/3 pine tar, 1/3 linseed oil; bottom bounding angles black (V27)
Carpenter Shop, Windlass Engine Space, Storerooms, Paint and Lamp Lockers	White (V56)	Deck 2/3 pine tar, 1/3 linseed oil; bottom bounding angles black (V27)
Lazaret:		
Bulkheads and overhead	White (V56)	Including skin of ship and space outside refrigerator compartment. Dado 12″ above deck, black (V27)
Deck	Red (V43)	
Galley:		
Bulkheads and overhead	White (V56)	Except surfaces adjacent to range which shall be painted black (V29). Dado 12″ above deck, black (V27).
Alleyways leading to Living Quarters		
Bulkheads and overhead	White (V56)	Bounding angle or baseboard same as deck.
Companionways leading to Living Quarters		
Interior and sides and overhead	White (V56)	

Part of Vessel	*Color*	*Remarks*
Companionways leading to 'tween deck spaces:		
Interior sides and overhead	White (V56)	
Exterior of engine room, galley and messroom skylights	Buff (V41)	
Woodwork in forward, amidships and after quarters	White Enamel (V58)	Except where the woodwork has a natural finish in which case it shall be varnished or oiled.
Wood ladders	Linseed Oil or Varnish (V87)	All ladders constructed of wood, both above and below decks, including gangways, shall be a natural finish.
Exposed Steel Work within the forward, amidships and after quarters	White Enamel (V58)	Except when adjacent to hardwood, the grain of which does not blend in appearance with white, in which case the metal shall be grained to conform with that of the wood finish.
Washrooms and toilets:		
Bulkheads and overhead	White (V56)	Dado 12″ above deck, Black (V27)
Linoleum	White Shellac (V77)	
Pipe or Standee berths and radiators	Aluminum (V21)	Except when galvanized or constructed of brass.
Electric Conduits	To conform with color of adjacent surfaces	Except when constructed of brass.
Valve Hand Wheels		Instructions contained on Pages No. 80 and 81.

Engine Department

Compartments

Engine Room Compartments:		
Bulkheads and overhead	White (V56)	
Gratings	Bare Iron	Except top gratings which shall be painted black (V27).
Handrails and stanchions	Bright	Except where the handrail stanchions are rough in which case they shall be painted black.
Trolley Rails	Black (V27)	Dado 12″ above floor plates around bulkheads and skin of ship, red (V43).
Fire Room Compartments:		
Bulkheads and overhead	White (V56)	Dado 12″ above floor plates, black (V27).
Gratings and handrails and handrail stanchions	Black (V27)	

Part of Vessel	*Color*	*Remarks*
Floor Plates, Angles and Supports:		
First coat	Red Lead (V9)	Topside of floor plates bare.
Second coat	Red (V43)	
Fuel Oil Pump Room		
Bulkheads and overhead	White (V56)	Dado 12″ above the floor plates, black (V27).
Donkey Boiler Room; Emergency Generator Compartment; Storerooms; Ice Machine Room; Flats:		
Bulkheads and overhead	White (V56)	
Deck	Oiled	
Bounding Angles	Black (V27)	
Steering Engine Room:		
Bulkheads and overhead	White (V56)	
Deck	Oiled	Dado 12″ above the deck, black (V27)
Bunker Spaces in and around the Engine Room:		
Overhead and bulkheads including the skin of the ship	White (V56)	
Deck	Oiled	
Bounding Angles	Black (V27)	
Ventilators:		
Inside	Red (V43)	Ventilators to be red leaded before paint is applied.
Outside	White (V56)	
Woodwork:		
Natural finish	Varnish (V87)	
Other than natural finish	In accordance with the color regulations of the Compartment.	

Machinery

Machinery Foundations:		
Bed Plates and exposed saddles of all auxiliary machinery	Same color as specified for the bulkhead dado of the compartment.	
Main Engines:		
Columns	Buff (V41)	Dado 12″ above floor plates or on flanges whichever is higher, red (V43).
Cylinder heads	Bare Iron	Polished with stove polish
Lagging	Polished	When constructed of Russian Iron.

Part of Vessel	*Color*	*Remarks*
Lagging	White (V56)	Except when constructed of Galvanized Iron.
Boilers:		
Fittings	Black (V29) or polished	
Furnace Fronts	Black (V29)	
Ends, uptakes, smokebox doors and lower stack	White (V61)	
Lagging	Buff (V41)	
Belly	Fish Oil	
Saddles	Red (V43)	
Piping:		
When covered	White (V56)	Exposed flanges to be painted black (V29).
Bare Piping above floor plates	White (V56)	To be red leaded before paint is applied.
Bare Piping below floor plates	Red (V43)	To be red leaded before paint is applied.
Bare Piping in fuel oil Pumproom	Aluminum (V21)	
Bare Piping of copper and brass	Polished	
Condensers:		
If cast with engine columns	Buff (V41)	If detached white (V56).
Feed Heaters, Evaporators and Inspection Tanks	White (V56)	
Pumps		
Fluid Ends	Buff (V41)	
Steam Ends	Black (V29)	Polished if lagged with Russian Iron.
Ice Machine:		
Steam Cylinder	Black (V29)	
Columns	White (V56)	
Compressor	Buff (V41)	
Condenser	White (V56)	
Steering Engine	Black (V27)	
Dynamos and Emergency Generator		
Cylinders and valve chests	Black (V29)	Polished if lagged with Russian Iron.
Generator end and housing	White (V56)	

MARKING OF VALVES

All valve hand wheels shall be marked in accordance with Form S-65 "Marking of Valve Wheels," which is reproduced below. Copies of Form S-65 shall be conspicuously posted under glass in Officers' Mess Room, Pump Room, Midship House and Engine Room.

Live Steam Valves to be painted BRIGHT RED: (V38)

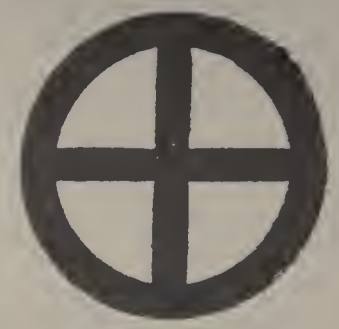
Exhaust Steam Valves to be painted BLUE: (V34)

Master Cargo Valves to be painted YELLOW: (V63)

Starboard Cargo Tank Valves to have GREEN (V52)
center and YELLOW (V63) **border**

Port Cargo Tank Valves to have **RED** (V38)
center and **YELLOW** (V63) **border**

Bunker Fuel Oil Valves to be painted **BLACK:** (V27)



Sea Water Valves to be painted **GREEN:** (V52)

Fresh Water Valves to be painted **WHITE:** (V56)

Emergency Valves to be painted half
BRIGHT RED (V38) and half **BLACK:** (V27)

Chapter IV

Cargo and Cargo Handling

Section I—Definition of Products

Highly Inflammable Products

(259) This group includes Naphthas, Naphtha Distillates, all grades of Gasoline, Benzine and similar highly volatile products.

Inflammable Products

(260) This group includes Light Mexican, South American and all Domestic Crudes.

Less-Inflammable Products

(261) This group includes Panuco Crude, Fuel Oils, Gas Oil, Water White, Export Refined, Lubricating Oils and similar products which are but slightly volatile.

Whenever cargo consists of certain volatile products not specifically included in any of the foregoing groups, special instructions regarding their handling will be incorporated in the sailing letter. Such special instructions will indicate that the cargo in question is either "highly inflammable," "inflammable" or "less-inflammable" and the Master shall be guided accordingly.

Section II—Preparations for Handling Cargo

Notice of Readiness

(262) Immediately upon the arrival of a vessel at a loading or discharging terminal, or at an anchorage from which she is ready to proceed immediately to such terminal, the Master shall, when the vessel is ready to load or discharge cargo, submit a formal notice of readiness (Form No. S-42) to the supplier or consignee, a duplicate copy of which shall be forwarded to the Manager.

Vessels loading or discharging at the port of New York shall give notice of readiness verbally to the dock foreman, and shall not submit the formal notice in writing as required above.

Inspection of Vessels Ready for Cargo

(263) When a vessel is reported ready for receiving cargo, it shall be inspected by the First Mate accompanied by the cargo inspector and shipper's representative, or only the latter

if the cargo inspector is not concerned; and all tanks about to receive cargo shall be passed by them as ready before loading is begun.

Inspection of Vessels Upon Completion of Discharging

(264) When a vessel has completed discharging an inspection of all tanks shall be made by the First Mate in order to assure that the ship is dry, and the First Mate shall sound and record in the Cargo Record Book (Form No. S-420), the depth of oil remaining in any tank from which it is found impossible to drain all the oil.

Whenever possible a signed certificate shall be secured from the consignee's representative to the effect that the vessel is dry, or in any case, endorsing the soundings recorded by the First Mate.

Condition of Valves and Discharge Connections Before Loading Cargo

(265) The First Mate shall satisfy himself that the vessel's cargo lines and pumps are in suitable condition for receiving cargo by opening all valves to the cargo tanks and assuring himself of the absence of any contaminating water or slop oil in the lines, which, however, if found, shall be removed by bailing or other means prior to loading. He shall also assure himself that all valves are in good working order, that they seat properly and that their stems are properly lubricated. All discharge connections not in use shall be blanked.

Connecting Cargo Hose

(266) The First Mate shall see that a sufficient length of hose is used to insure adequate allowance for the movement of the vessel. He shall also satisfy himself that the hose is properly supported by means of canvas slings or wooden saddles and that it cannot kink or chafe against the vessel's rails or stanchions.

When the vessel is moored to a dock, cargo hose may be bolted to the discharge connections, but at sea loading stations clamps alone shall be used for securing the hose and a wooden mallet shall at all times be kept at hand to knock the clamps off in cases of emergency.

Short Circuiting Device

(267) For the purpose of grounding static electricity generated in the vessel and thereby eliminating sparking at the cargo connections when connecting or disconnecting the hose, an electric short circuiting device, as described hereinafter, shall be provided at all terminals.

At each group of loading or discharging connections on the dock, all pipes will be securely fastened by means of suitable connections to a copper cable, which will be connected in turn to one terminal of a single pole switch located on the dock. The other terminal of the switch shall be securely connected by means of flexible insulated copper cable (approximately 4/0 wire) to the loading or discharging connections on the vessel.

This device shall be operated as follows:

Before the cargo hose is connected, contact shall first be made, as described above, between the vessel's cargo connections and the switch

on the dock. The switch shall then be closed, thereby grounding the vessel's static electricity. When this has been done, the cargo hose may be connected. The short circuiting device shall be connected and the switch closed during the entire time that the hose is connected and when loading or discharging is completed the hose shall first be disconnected after which the electric connection shall be broken by opening the switch on the dock. The wire cable may then be disconnected from the vessel's cargo piping.

It is desired to emphasize particularly, the importance of the order in which the various connections are made, since deviation from this order permits of the possibility of dangerous sparking at or near the hose connections.

Whenever a short circuiting device is in use care shall be exercised to insure that no metal path is made around any insulated joints which may be fitted in the dock pipe lines. The purpose of insulated joints, i.e., to prevent the flow of stray currents through dock pipe lines, would be defeated by establishing metal contact between the two sides of the joints.

By agreement with the refineries the responsibility for connecting up the short circuit device, in accordance with the foregoing method, rests wholly upon the dock force, but it is, nevertheless, the duty of the First Mate to assure himself that the short circuiting device is connected in accordance with the foregoing provisions, and to make a prompt report to the dock foreman in case this is not done.

Section III—General Requirements

Supervision of Cargo Matters by the First Mate

(268) In accordance with Article No. 60, the First Mate is charged with general responsibility for cargo and, in discharging this duty, he shall pay particular attention to the manner in which the Second Mate, Third Mate, Relieving Mates and Pumpman perform their duties while on watch. He shall also take particular pains to have clearly entered in the Deck Order Book (Form No. S-419) all orders and instructions pertinent to the handling of cargo that will enable his subordinates to clearly understand the manner in which the cargo is to be handled and the necessary safety precautions to avoid loss or contamination.

Officer to be on Deck While Loading or Discharging

(269) A Mate shall be on deck at all times when a vessel is loading cargo of any nature, discharging cargo of oils of different grades or draining tanks. If it is necessary for the Mate-in-Charge to give his attention to other matters or for him to leave the deck for any reason, he shall first be relieved by another Mate. He shall give full attention to the handling of cargo and shall be on constant watch for leaks, overflows and fires.

Tank Tops and Ullage Hole Screens

(270) Whenever a vessel is loading or discharging inflammable products, the tank tops shall be kept closed and the tank top dogs shall be slacked off and thrown back.

All ullage plug holes on the cargo tank tops shall be covered with 200 mesh wire gauze or wet gunnysacks until the ullage plugs are permanently secured in place.

Vent Valves

(271) The control valves on the vent lines of all cargo tanks shall be open at all times except while a cargo of oil of different grades is being loaded into a vessel having common vent lines, in which case the vent valves shall be closed while loading, and the plug holes in the tank tops open.

Cargo Hose

(272) All vessels shall carry two 25-foot lengths of 8-inch hose and a sufficient supply of reducers. Under normal conditions, however, cargo hose for loading and discharging will be supplied by the shore staff, and the ship's hose shall not be used.

Testing of Cargo Hose

(273) All lengths of cargo hose issued to vessels shall be carefully inspected at frequent intervals, and shall be subjected to a continuous hydrostatic pressure of 100 pounds for a period of one hour, semi-annually. Following each test, a complete report by letter shall be prepared and submitted to the Manager, together with a recording gauge chart indicating the pressure maintained on the hose.

Notation of any defects in the hose which are detected as a result of the visual inspection or pressure test, shall be included in the report covering such tests.

Reports of Burst Cargo Hose and Cargo or Bunker Overflow

(274) Whenever a cargo hose leaks, bursts or shows signs of defects, while the vessel is loading or discharging cargo, a complete report of the incident shall be made to the Manager and will include in addition to the time and place of occurrence, the following information:

(a) Pressure on hose when defects occurred as indicated by nearest gauge.
(b) Name of manufacturer.
(c) Ownership of hose, i.e., vessel or shore station.
(d) Service Record of hose.
(e) Whether or not relief valves functioned.

Whenever cargo or bunkers are overflowed, a full report of the circumstances shall be made in writing to the Manager, together with statements of those involved and Master's recommendation. This report shall include: cause of overflow, officer in charge, men on deck, persons responsible, whether scuppers were plugged, whether oil was spilled overboard, and approximate quantity overflowed.

Care of Cargo Hose

(275) All cargo hose shall be securely stowed in some protected place, in order that deterioration as a result of exposure to weather or moisture may be avoided.

Recording Pressure Gauges

(276) The steam and oil pressure recording gauges shall be maintained in good working order and proper adjustment by frequent comparison with a Bourbon Gauge.

Recording steam and oil gauge cards shall be obtained whenever cargo is discharged and shall immediately thereafter be forwarded to the Manager with the Port Log (Form No. S-61).

Testing of Tanks in Ballast

(277) Prior to each overhaul period and prior to each loading of cargo of oil of different grades, the cargo tank bulkheads shall be tested while the vessel is in ballast by filling alternate tanks with water and inspecting the bulkheads for leaks. A careful record of such inspections shall be made, together with notation of any leaks, which may have occurred, and this information entered in the Deck Department Work Book (Form No. S-412).

Cargo Discharge Temperatures

(278) The following cargoes are required to be discharged at the temperatures indicated in the table below. They shall, when necessary, be heated in accordance with the provisions of Article 247 to assure that the proper temperature is attained upon arrival at the port of discharge.

(a) *Light Mexican Crude* (18°-23° A. P. I.) shall be heated to, but not exceeding 90° F.

(b) 12° *Panuco Crude* shall be heated to a temperature of not less than 125° F. and not greater than 135° F.

(c) *Fuel Oil* shall be heated to a temperature of not less than 125° F. and not greater than 135° F.

(d) *West Columbia and Smackover Crudes* shall be heated to a temperature of not less than 100° F. and not more than 115° F.

(e) *Gas Oil* loaded at Gulf ports and consigned to New York or Baltimore shall be heated to a temperature of not less than 110° F. nor more than 120° F.

(f) Mexia, Powell, Moran, Ranger, California and Low Cold Test Peruvian Crudes shall be discharged at atmospheric temperature.

(g) Wax shall be heated to a temperature of 110° F. during voyage and during 10 hours prior to arrival at the port of discharge gradually heated to a temperature of 140° F.

Pumping Rates and Pressures

(279) The speed at which the cargo pumps shall be operated must be determined by the individual judgment of the

officer in charge, formulated upon the existing circumstances as to suction and discharge conditions, but the following table shows the rates that can be expected when the pumps are in good condition and operating under favorable conditions of suction and discharge:

Size of Pump	Normal Steam Pressure at Pumps	Panuco Crude Heavy Fuel & Heavy Lubricating Oils: Normal Speed Dbl. Strokes Per Min.	Panuco Crude Heavy Fuel & Heavy Lubricating Oils: Capacity Bbls./Hr. Allowing 10% Slip	Light Crude Refined Oils, Etc.: Normal Speed Dbl. Strokes Per Min.	Light Crude Refined Oils, Etc.: Capacity Bbls./Hr. Allowing 10% Slip
14" x20" x15" x24" (Vert.)	180 lbs	24	2280	30	2850
14" x20" x16½"x24"	180 lbs.	24	2740	30	3430
12" x18" x14½"x24"	180 lbs.	24	2120	30	2650
18" x14" x24"	120-150 lbs.	24	1975	30	2470
12¼"x21¼"x14" x22"	180 lbs.	24	1810	30	2260
18" x14" x22"	120-150 lbs.	24	1810	30	2260
16" x13" x24"	120-150-lbs.	24	1710	30	2140
18" x11" x18"	120-150 lbs.	28	1070	35	1340
15" x11" x18"	120-150 lbs.	28	1070	35	1340

If the cargo pumps do not maintain their rated capacity at the corresponding speeds listed above, a thorough examination of their condition shall be made immediately, in order that any defects may be eliminated.

If in any case it is impossible for the vessel's personnel to obtain the rated capacity of the cargo pumps, a complete report shall at once be made to the Manager.

Upon arrival at the discharging berth, the First Mate shall ascertain the maximum pressure which the shore station will allow on the hose and every effort shall be made to maintain this pressure so that, however, it shall in no case exceed 100 lbs. in the pump room on vessels which are not equipped with National Transit Horizontal Compound Pumps. On vessels equipped with National Transit Horizontal Compound Pumps, the pressure in the pump room shall in no case exceed 90 lbs.

Pressure Relief Valves (280) All cargo line relief valves shall be set to relieve at 100 pounds pressure. Frequent inspection of these valves shall be made and at monthly intervals they shall be subjected to a hydrostatic test, in order that they may be maintained in proper adjustment. The results of these tests shall be recorded in the Deck Department Work Book (Form No. S-412).

Sampling Cargo (281) Whenever a vessel's cargo consists of any oil except Crudes, Fuels and domestic shipments of Gas Oil, a sample of the contents of each tank shall be taken immediately after loading has been completed. A similar sample shall be taken from each tank just prior to discharging. All samples shall

be taken from a point midway in the tank or below and shall be obtained whenever possible in the presence of the shipper's or consignee's representative.

All samples shall be placed in bottles provided for the purpose by the Marine Department Storehouse at Bayonne or Agents at Baltimore or Baton Rouge, and having been properly labelled with adequate identification marks shall be retained aboard the vessel until completion of next succeeding voyage in a case provided for the purpose, after which the contents may be thrown away unless specific instructions as to other disposition have been received.

Upon arrival of vessel at either New York, Baltimore, or Baton Rouge the Master shall deliver to the Agent all empty, dirty bottles he may have aboard and shall receive in exchange from the Agent new sample cases and bottles.

Cargo Inspection Certificates

(282) When a cargo is loaded or discharged at a port where an inspector of Charles Martin & Company is employed, the Chief Mate shall obtain a copy of Charles Martin & Company's certificate, showing the ullages and disposition of cargo, which has been signed by a Charles Martin & Company's inspector. This certificate shall be filed in the ship's files.

In ports where Charles Martin & Company is not represented or employed, the First Mate shall himself prepare two copies of a certificate similar to Charles Martin & Company's certificate on which shall be recorded the ullages and disposition of cargo. The First Mate shall obtain the signatures of the shipper's representative on both copies of this certificate, the original of which shall be mailed to the Manager and the copy retained in the ship's files.

Whenever the vessel is in port, the file of Charles Martin & Company's certificates and similar certificates prepared by the First Mate shall be kept readily accessible for inspection by the company's shore representatives.

Cargo Record Book

(283) A Cargo Record Book (Form No. S-420) shall be retained aboard each vessel in which the First Mate shall enter, in addition to ullages of all tanks immediately after loading and before discharging, any record of cargo shifts for effecting the trim of the vessel, together with all particulars of such shifts and the disposition of the various grades of oil. There shall also be recorded in the Cargo Record Book the full details of any loss of cargo which may occur during a voyage.

In addition, full information relative to cargo shall be entered in all columns provided on the Port Log (Form No. S-61) for each cargo carried.

Demurrage Schedule

(284) If the following loading and discharging rates are not maintained the shore loading or discharging station is charged demurrage. This demurrage is not chargeable, however, unless the ship

maintains an average discharge pressure of at least 65 pounds on the shore line at the point nearest the ship's discharge, and has heated the cargo as provided by Article 278.

Loading

(A) All vessels loading cargo having a gravity of 17° A. P. I. or below shall be loaded at a rate of at least 3,000 barrels per hour.

(B) All vessels loading cargo having a gravity over 17° A. P. I. (except lubricating oils) shall be loaded at a rate of at least 4,000 barrels per hour.

(C) Lubricating oils having a gravity of over 17° A. P. I. shall be loaded at a rate of 3,000 barrels per hour.

Discharging (A) All steamers of 10,000 D.W.T. or more and also the steamers "L. J. DRAKE," "POLARINE," "THOMAS H. WHEELER," "M. F. ELLIOTT," "GLENPOOL" and "CADDO" shall be discharged at the following rate:

1,500 barrels per hour for all products having a gravity of 17° A.P.I. or below.

3,000 barrels per hour for all products having a gravity of over 17° A.P.I. and up to and including 30° A.P.I., except lubricating oils.

4,000 barrels per hour for all products having a gravity of over 30° A.P.I.

1,000 barrels per hour, with a total allowance of 24 hours for any cargo up to 72,000 barrels and 3,000 barrels per hour for cargoes over 72,000 barrels, for all lubricating oils.

(B) All steamers below 10,000 D.W.T. with the exceptions noted above, shall be discharged at the following rates:

1,200 barrels per hour for all products having a gravity of 17° A.P.I. or below.

2,000 barrels per hour for all products having a gravity of over 17° A.P.I. and up to and including 30° A.P.I., except lubricating oils.

2,500 barrels per hour for all products having a gravity of over 30° A.P.I.

1,000 barrels per hour, with a total allowance of 24 hours for any cargo up to 48,000 barrels and 2,000 barrels per hour for cargoes over 48,000 barrels, for all lubricating oils.

These loading and discharging rates represent average rates for the period included in the laytime. In order to maintain these average rates, it will, of

course, be necessary to maintain higher rates for a portion of the loading or discharging time, so as to make up for time before loading or discharging is actually started and for the time necessary to drain tanks.

In case shore steam is used for discharging, the consignees are obligated to supply steam at a pressure of not less than 80 pounds at ship's pump when they are operating at full speed.

If consignees do not receive the cargo at the above mentioned rates of discharge, and the steamer maintains an average pressure of 65 pounds on the shore line at the point nearest the ship's discharge connection, this will be accepted as evidence that the ship's facilities were capable of delivering the products at the aforementioned rates, and that the shore facilities were inadequate to receive the quantities that the steamer was able to deliver.

Signals for Vessels Loading and Discharging

(285) When a vessel is loading or discharging cargo, a red flag shall be displayed on the foremast during the day and one red light at night, as an indication that petroleum products are being handled.

Section IV—Loading and Discharging Cargoes

Special Cargo Handling Provisions

(286) Whenever a vessel is loading or discharging at a foreign port, the First Mate shall acquaint himself with any special provisions regarding the handling of cargo which might be in force at the port in question.

Precautions to be Taken in Loading Cargo Tanks

(287) In loading main cargo tanks as many tanks shall be loaded at the same time as the Mate-in-Charge deems safe. Each tank shall be closely watched and frequently gauged, and when the cargo enters the expansion trunk every precaution shall be taken, reducing the number of tanks being loaded, or the rate of loading if necessary, to guard against an overflow.

The Mate-in-Charge shall provide himself with adequate assistance to watch tanks and man valves in a thorough manner that will guard against danger of overflow, and he will be held strictly responsible for any accident occurring through lack of proper assistance on deck.

Topping Off

(288) Cargo tanks shall first be loaded to a point below the desired ullage for passage and later, topped off one at a time, if possible, or, in any event, as few at a time as practicable. The rate of loading shall be reduced while topping off is in progress, and the First Mate shall personally supervise this procedure.

Loading Over-All

(289) No cargo, with the exception of fuel, wax and lubricating oils, shall be loaded overall, except under specific instructions from a duly authorized person.

When special instructions to load other products overall have been received, extraordinary precautions shall be observed and a hose or canvas leg having no metal fittings on the discharge end shall be inserted in the tank and securely lashed in place.

Tank tops shall be kept open only sufficiently to permit of the insertion of the hose, and the opening around it shall be plugged with wet burlap or similar material.

When loading overall into one side of a tank both sides of which are to carry cargo of the same grade, the oil shall be sluiced through the line which will be used to discharge it and the master valves on both sides of the tank shall be kept shut.

Loading Highly Inflammable Products

(290) Loading highly inflammable products after dark or during severe electrical storms is prohibited.

Fire Prohibited While Loading Highly Inflammable Products

(291) While loading highly inflammable products, all fires shall be extinguished. Shore steam shall be used for the operation of auxiliary machinery and for the heating system.

Use of Ship's Steam While Discharging Highly Inflammable Products

(292) When discharging highly inflammable products a vessel shall use her own steam whenever possible, unless shore regulations prevent.

Handling of Inflammable and Less-Inflammable Products

(293) It is permissible to load inflammable and less-inflammable products or discharge these products after dark, and vessels are permitted to use their own steam while so doing if terminal and local regulations permit.

Allowance for Expansion

(294) In loading tanks, allowance shall be made for the expansion and contraction of oil due to change of temperature.

This change of volume varies with the gravity of the oil and can be computed with reference to the table appearing below which gives the co-efficient of expansion corresponding to the gravity range of the A.P.I. scale. The co-efficient of expansion for oil of any gravity is the fractional amount by which its volume will be changed due to an increase or decrease in temperature of 1° F.

A.P.I. gravity of oil			Coefficient for change in temperature of 1° F.
10°	to	20°	.00035
20.1	"	30	.0004
30.1	"	40	.00045
40.1	"	50	.0005
50.1	"	55	.00055
55.1	"	60	.0006
60.1	"	65	.00065
65.1	"	70	.0007
70.1	"	75	.00072
75.1	"	80	.00075
80.1	"	85	.00078

COMPARATIVE TABLE OF SPECIFIC AND A. P. I. GRAVITIES WITH EQUIVALENT WEIGHTS AND MEASURES

Spec. Grav.	Degrees A. P. I. Grav.	Lbs. Per Bulk Gal. (231 cu. in.)	Kilos Per Bulk Gal. (231 cu. in.)	Lbs. Per Cu. Ft.	Lbs. Per 42 Gal. Bbl.	One Ton of 2240 Lbs. Equivalent to			
						Cu. Meters	Cu. Feet	U. S. Gals.	42 Gal. Bbls.
1.0000	10	8.328	3.778	62.302	349.776	1.018	35.954	268.972	6.404
.9930	11	8.270	3.751	61.868	347.34	1.025	36.206	270.859	6.449
.9861	12	8.212	3.725	61.434	344.904	1.032	36.462	272.772	6.495
.9792	13	8.155	3.699	61.008	342.51	1.040	36.716	274.678	6.540
.9725	14	8.099	3.674	60.589	340.158	1.047	36.970	276.577	6.585
.9659	15	8.044	3.649	60.177	337.848	1.054	37.224	278.468	6.630
.9593	16	7.989	3.624	59.766	335.538	1.061	37.479	280.386	6.676
.9529	17	7.935	3.599	59.362	333.27	1.068	37.735	282.294	6.721
.9465	18	7.882	3.575	58.965	331.044	1.076	37.989	284.192	6.766
.9402	19	7.830	3.552	58.576	328.860	1.083	38.241	286.079	6.811
.9340	20	7.778	3.528	58.187	326.676	1.090	38.497	287.992	6.857
.9279	21	7.727	3.505	57.806	324.534	1.097	38.750	289.893	6.902
.9218	22	7.676	3.482	57.424	322.392	1.105	39.008	291.819	6.948
.9159	23	7.627	3.46	57.058	320.334	1.112	39.258	293.693	6.993
.9100	24	7.578	3.437	56.691	318.276	1.119	39.512	295.592	7.038
.9042	25	7.529	3.415	56.324	316.218	1.126	39.770	297.516	7.084
.8984	26	7.481	3.393	55.965	314.202	1.133	40.025	299.425	7.129
.8927	27	7.434	3.372	55.614	312.228	1.140	40.277	301.318	7.174
.8871	28	7.387	3.351	55.262	310.254	1.148	40.534	303.235	7.220
.8816	29	7.341	3.33	54.918	308.322	1.155	40.788	305.136	7.265
.8762	30	7.296	3.309	54.581	306.432	1.162	41.040	307.017	7.310
.8708	31	7.251	3.289	54.245	304.542	1.169	41.294	308.923	7.355
.8654	32	7.206	3.269	53.908	302.652	1.177	41.552	310.852	7.401
.8602	33	7.163	3.249	53.586	300.846	1.184	41.802	312.718	7.445
.8550	34	7.119	3.229	53.257	298.998	1.191	42.060	314.651	7.492
.8498	35	7.076	3.21	52.936	297.192	1.198	42.315	316.563	7.537
.8448	36	7.034	3.191	52.621	295.428	1.205	42.569	318.453	7.582
.8398	37	6.993	3.172	52.315	293.706	1.212	42.818	320.320	7.627
.8348	38	6.951	3.153	52.000	291.942	1.220	43.077	322.256	7.673
.8299	39	6.910	3.134	51.694	290.220	1.227	43.333	324.168	7.718
.8251	40	6.870	3.116	51.394	288.540	1.234	43.585	326.055	7.763
.8203	41	6.830	3.098	51.095	286.860	1.241	43.84	327.965	7.810
.8155	42	6.790	3.08	50.796	285.180	1.249	44.098	329.897	7.855

COMPARATIVE TABLE OF SPECIFIC AND A. P. I. GRAVITIES WITH EQUIVALENT WEIGHTS AND MEASURES

Spec. Grav.	Degrees A. P. I. Grav.	Lbs. Per Bulk Gal. (231 cu. in.)	Kilos Per Bulk Gal. (231 cu. in.)	Lbs. Per Cu. Ft.	Lbs. Per 42 Gal. Bbl.	One Ton of 2240 Lbs. Equivalent to			
						Cu. Meters	Cu. Feet	U. S. Gals.	42 Gal. Bbls.
.8109	43	6.752	3.063	50.512	283.584	1.256	44.346	331.753	7.898
.8063	44	6.713	3.045	50.220	281.946	1.263	44.604	333.681	7.945
.8017	45	6.675	3.028	49.936	280.350	1.27	44.857	335.581	7.99
.7972	46	6.637	3.011	49.651	278.754	1.277	45.115	337.502	8.036
.7927	47	6.600	2.994	49.375	277.200	1.285	45.367	339.394	8.08
.7883	48	6.563	2.977	49.098	275.646	1.292	45.623	341.307	8.126
.7839	49	6.526	2.96	48.821	274.092	1.299	45.882	343.242	8.172
.7796	50	6.490	2.944	48.552	272.580	1.306	46.136	345.146	8.218
.7753	51	6.455	2.928	48.290	271.110	1.313	46.386	347.018	8.262
.7711	52	6.420	2.912	48.028	269.640	1.321	46.639	348.910	8.307
.7669	53	6.385	2.896	47.766	268.170	1.328	46.895	350.822	8.352
.7628	54	6.350	2.880	47.504	266.700	1.335	47.154	352.756	8.399
.7587	55	6.316	2.865	47.250	265.272	1.342	47.407	354.655	8.444
.7547	56	6.283	2.85	47.003	263.886	1.349	47.657	356.518	8.489
.7507	57	6.249	2.834	46.749	262.458	1.357	47.915	358.457	8.535
.7467	58	6.216	2.82	46.502	261.072	1.364	48.170	360.36	8.580
.7428	59	6.184	2.805	46.263	259.728	1.371	48.418	362.225	8.624
.7389	60	6.151	2.79	46.016	258.342	1.378	48.679	364.168	8.670
.7351	61	6.119	2.776	45.776	256.998	1.386	48.934	366.073	8.716
.7313	62	6.087	2.761	45.537	255.654	1.393	49.19	367.997	8.762
.7275	63	6.056	2.747	45.305	254.352	1.40	49.443	369.881	8.807
.7238	64	6.025	2.733	45.073	253.050	1.407	49.697	371.784	8.852
.7201	65	5.994	2.719	44.841	251.748	1.414	49.954	373.707	8.898
.7165	66	5.964	2.705	44.617	250.488	1.421	50.205	375.587	8.943
.7128	67	5.934	2.692	44.392	249.228	1.429	50.459	377.486	8.988
.7093	68	5.904	2.678	44.168	247.968	1.436	50.715	379.404	9.033
.7057	69	5.874	2.664	43.943	246.708	1.443	50.975	381.341	9.080
.7022	70	5.845	2.651	43.726	245.490	1.451	51.228	383.233	9.125
.6988	71	5.817	2.639	43.517	244.314	1.458	51.474	385.078	9.169
.6952	72	5.788	2.625	43.300	243.096	1.465	51.732	387.008	9.214
.6919	73	5.759	2.612	43.083	241.878	1.472	51.993	388.956	9.261
.6886	74	5.731	2.6	42.874	240.702	1.479	52.246	390.856	9.306
.6852	75	5.703	2.587	42.664	239.526	1.487	52.503	392.776	9.351

The use of this table is illustrated by the following example:

Assume that a tank of fuel oil, having an A.P.I. gravity of 21.4 at 100° F. contains 20,000 cubic feet and that its volume is to be determined at 110°. By referring to table above, the coefficient .0004 is obtained for oil of this gravity, which means that the expansion in volume for every degree increase in temperature will be .0004 x 20,000 cubic feet or 8 cubic feet.

Obviously, an increase of 10° from 100° F. to 110° will, therefore, result in a total expansion of 80 cubic feet or 10 x 8, and the resultant volume of oil in tank will be 20,080 cubic feet.

Section V—Special Regulations for Handling Lubricating Oils

Drying Tanks and Connections

(295) Under no circumstances shall lubricating oil be loaded until the Master is assured that the cargo tanks and all connections are entirely free of water.

Selection of Tanks for Lubricating Oils

(296) Whenever possible tanks shall be laid out for lubricating oil so that cofferdam or pump room bulkheads separate lubricating oil from other cargo, and the different grades of lubricating oil from each other. Tanks shall be loaded so that the lubricating oil can be discharged first, and the different grades of lubricating oil in order of color, the lightest color to be discharged first, when possible.

Inspection of Tanks for Bulkhead Leaks

(297) The ship must be loaded so that the dividing bulkhead between the different grades of lubricating oil (or between lubricating oil and other cargo) can be inspected for leaks from an empty tank when the adjacent tank is full. Whenever possible the working (caulking) side of the bulkhead shall be selected for inspection.

Inspection of Tanks for Side Leaks

(298) The sides of tanks laid out for lubricating oil shall also be carefully inspected for leaks. Bunkers, water and other grades of cargo shall be started aboard as promptly as possible in order to obtain the maximum draft possible at the time this inspection is made.

Connections Reserved for Lubricating Oil

(299) The First Mate shall select a deck line, riser, pump, pump room manifold and cargo line; by-pass the pump and keep these connections clean for discharging the lubricating oil in the manner outlined in Article 296. Whenever possible, the cargo line to which are connected the after suctions should be reserved for this purpose.

Blowing Cargo Lines

(300) Cargo lines used for lubricating oil shall be blown as follows before loading is commenced:

Close all division and manifold valves except the manifold valve of the line to be blown. Open the tank suction valves on this line. Connect an air line from the dock to the deck connection of the cargo line, and blow all water and slop oil into the cargo tanks. Only one section of line shall be blown at a time.

Testing Cargo Lines and Cargo Tank Valves for Leaks

(301) Before loading lubricating cargo the First Mate shall test cargo lines and tank valves as follows: Close all tank suction valves and open pump room manifold valves, together with all master valves between the tank to be tested and the pumproom. Apply air pressure and inspect lines for leaks by listening for the sound of escaping air. This procedure also affords a test of the tank suction valves and the master valves on the side away from the pump room. By testing one section of line at a time, i.e., between adjacent master valves, the suction valves in each successive tank and each pair of master valves may be tested in the order of their proximity to the pumproom.

Testing Manifold Valves for Leaks

(302) Before loading lubricating cargo the First Mate shall test manifold valves as follows: Open all division valves and close all manifold valves on cargo lines. Apply an air pressure to the manifold through a deck connection. Listen at the manifold for the sound of escaping air which will indicate a leak. While the manifold is under air pressure, crack a division valve inspection plate and drain out any remaining oil or water.

Loading Connections

(303) When cargoes of different grades of lubricating oils are loaded the loading connections shall be selected so that light lubricating oil will not be contaminated by passing through a section of line containing a darker grade.

Use of Summer Tanks for Lubricating Oil

(304) Vessels having no summer tank crossover line in the pump room, or vessels which, for any reason, are required to load or discharge the summer tanks through both sides of the pumproom manifold shall not carry lubricating oil in the summer tanks, if it is necessary to use the same line for loading or discharging other grades of oil which might result in contamination.

A summer tank shall not be loaded with a different grade of lubricating oil than that carried in the main tank below unless specific instructions to do so are received from a duly authorized source.

Lubricating Oil Not to be Shifted for Trim

(305) Vessels shall be loaded so that it will not be necessary to shift lubricating oil to alter trim. This point will require special attention in the case of vessels scheduled to discharge at two or more ports.

Draining Lubricating Oil Tanks

(306) Vessels carrying lubricating oil and other cargo shall use one pump on the lubricating oil and the other pump on the remainder of the cargo. The other cargo shall be handled so that the ship can be given the proper trim and list to drain the lubricating tanks thoroughly.

Operating Pumps on Different Grades of Cargo

(307) When both pumps are in operation on different grades of cargo, the pump room manifold division valves and the pipe line crossover valves shall be closed tight, so that each pump will discharge through its own riser. If a vessel is not equipped with a deck crossover line it will be necessary to rig a hose connection across the deck.

Draining Pumps

(308) The pumps to be used for discharging lubricating oil shall be opened up and drained of all water and slop oil while the vessel is enroute the discharging port.

Thieving Lubricating Oil Tanks

(309) Upon the completion of loading, all lubricating oil tanks shall be thieved by the First Mate with litmus paper.

Use of Heater Coils

(310) Steam shall not be turned on heater coils in tanks carrying lubricating oil, except when specifically so stated in the sailing letter.

Section VI—Special Regulations for Handling Bulk and Miscellaneous Cargoes of Different Grades of Oil

General

(311) It is of paramount importance when handling cargoes of different grades of oil of any kind to insure first, that tanks and lines are ready for cargo, and second, that the various grades of cargo are so loaded that they may be discharged independently of one another in such a way that contamination cannot result.

To this end when such cargoes other than lubricating cargoes are being handled the provisions of the Special Regulations for Handling Lubricating Oils will apply insofar as the selection of tanks, inspection for bulkhead leaks and selection of pipe lines are concerned.

Under ordinary circumstances, however, it will not be necessary to blow the cargo lines with air as in the case of lubricating cargoes, but the usual precautions shall, nevertheless be taken to assure that the pipe lines are free of slop oil and that all cargo lines and valves are tight.

No naphtha, gasoline, benzine, etc., in cans, barrels, cases or packages of any kind may be accepted for shipment on any tank vessel, except that on proper authority from the Marine Department or an agent at an outport samples of different products in packages not exceeding 10 gallons each and not more than five such samples at any one time may be transported.

Use of Summer Tanks for Cargoes of Different Grades of Oils

(312) Summer tanks shall preferably be loaded with oil of the same grade as the tank below, and under no circumstances shall dirty products be loaded in summer tanks over refined products or vice versa, unless specific instructions are received from a duly authorized person and then only after intervening bulkheads have been tested and found tight.

Chapter V

Repairs, Alterations and Tank Cleaning for Repairs or Cargo

Section I—Repairs and Alterations

Overhaul Period (313) Except in cases of emergency vessels will be drydocked and overhauled by outside contractors only at regular periods, in accordance with a prearranged schedule, at which time all work required to place the vessel in good condition, and which is clearly beyond the capacity of the ship's force, will be carried out.

Repairs in Foreign Ports (314) Inasmuch as an ad valorem duty is assessed on all repairs in foreign ports, Masters shall limit repair work undertaken outside of the United States to the minimum requirements of safe operation. Whenever repairs are made in foreign ports, the Master shall prepare a report stating the number of men employed, the time they worked and an estimated statement of the amount of material used. This report shall be prepared in quadruplicate, and the original handed to the agent at the foreign port where repairs were made. One copy shall be forwarded to the Manager, one copy to the European representative, if the repairs are made in a European port, and one copy shall be retained in the ship's files.

Repairs of any nature made at a foreign port, when outside labor is employed, must be reported to the Collector of Customs by the Master at the first port of entry in the United States. All items of equipment purchased in a foreign port must also be reported, but equipment taken from the vessel's stock is not dutiable although if outside labor is used in installing such equipment, the amount expended in wages to such labor is dutiable.

The Master shall, if possible, obtain an itemized bill for all repairs made in a foreign port, for all material and equipment purchased, and wages paid to outside labor before the vessel leaves the foreign port. If, however, it is not possible to obtain the itemized bill without delaying the steamer, the Master shall request the foreign agent to mail the itemized bill as soon as possible to the Manager, who will forward it to the Agent at the United States port of entry.

Remission of this duty may be obtained upon presentation of good and sufficient evidence that the vessel while on the regular course of its voyage was compelled by stress of weather or casualty to effect repairs or secure equipment in a foreign port, in order to enable the vessel to proceed on its voyage with safety.

Whenever a vessel is compelled to have repairs effected or to purchase

material in a foreign port, due to stress of weather or casualty, the Master shall prepare an affidavit which shall be submitted at the first port of entry in the United States, together with a copy of the itemized bill for such repairs or material. This affidavit shall state in detail damages incurred due to stress of weather, the nature and extent of any casualties or mishaps which may have occurred, the time and position of the vessel when the damage was inflicted, the port where repairs were effected and the material or equipment obtained.

The affidavit shall also state whether or not the repairs made or material secured were required to enable the vessel to proceed on a voyage to other foreign ports or merely to enable it to return with safety to a United States port. This affidavit shall be handed by the Master to the Agent at the port of entry, who will present it to the Collector of Customs with the request that the duty be remitted.

Preparation of "Requirements for Maintenance and Repairs of Vessel"

(315) The Master shall be responsible for the preparation of Requirements for Maintenance and Repairs of Vessels (Form No. S-4) for the Deck Department and Steward's Department. He shall examine the Deck Department Work Book (Form No. S-412) and the Steward's Department Work Book (Form No. S-415) and shall determine by personal inspection what repair items are necessary and beyond the capacity of the ship's force to accomplish. He shall consult with the Chief Engineer in this connection to assure that none of the repairs listed are within the capacity of the Engine Department to accomplish.

Similarly the Chief Engineer shall be responsible for the preparation of Requirements for Maintenance and Repair of Vessels for the Engine Department, and he shall examine the Engine Department Work Book (Form No. S-414) and determine by personal inspection what repair items listed are necessary and beyond the capacity of the ship's force to accomplish. The Chief Engineer shall hand this form to the Master to be forwarded in accordance with the following instructions.

At least one voyage prior to the time the vessel is due for scheduled overhauling, Requirements for Maintenance and Repairs of Vessels shall be made in quadruplicate separately for the Deck Department, Engine Department and Steward's Department, respectively, and submitted for all departments at the same time.

The Master shall be responsible for the disposition of the four copies of these forms as follows:

Original and Duplicate:

These copies shall be handed to the Repair Inspector in ports where one is stationed. In ports where there is no Repair Inspector, both copies shall be handed to the Agent.

In ports where there is no Repair Inspector, the duplicate copy will be submitted by the Agent to the Master and Chief Engineer for signature when the repair work is completed. If any item of repair is not completed to the satisfaction of the Master and Chief Engineer, they shall not sign the duplicate copy without writing on the face of the duplicate copy their objection and criticism of the unsatisfactory item.

Triplicate:

This copy shall be delivered to a representative of the Construction and Repair Division when a vessel is in the port of New York; if the vessel is at an outport, it shall be handed to the Repair Inspector, or in the absence of a Repair Inspector, to the Agent, who will forward it to the Manager, upon completion of the work.

Objection or criticism to any unsatisfactory item of repair shall be written on the face of the triplicate copy.

Quadruplicate:

This copy shall be retained in the ship's files.

Objections or criticisms to any item of repair shall be written on the face of the quadruplicate copy.

Supervision Over Outside Repairs

(316) Whether or not a Repair Inspector, attached to the Construction and Repair Division, is present, Heads of Department shall keep in close touch with the progress of all repair work being accomplished by outside contractors, and under no circumstances shall any machinery be closed up or any other work accepted as completed without having been inspected by a ship's officer of the Department concerned.

Duties of Chief Engineer in Absence of Construction and Repair Inspector

(317) In the absence of an Inspector attached to the Construction and Repair Division, the Chief Engineer shall be the direct representative of the Construction and Repair Division, and it shall be his duty to pass upon and accept all repair work done by outside contractors in whatever department of the vessel such repairs may be accomplished.

Checking Repairs in U. S. Ports Where There Is no Construction and Repair Inspector

(318) When repairs are accomplished in U. S. ports at which there is no Inspector attached to the Construction and Repair Division, the Chief Engineer shall designate a licensed engineer to check the work done. When repairs are completed a special letter shall be prepared, stating, for each item of work, the number of men employed by the repair yard, the time they worked and the estimated amount of material used.

This letter shall be prepared in triplicate; the original shall be handed to the Agent at the port in which repairs were made; one copy forwarded to the Manager, and one copy retained in the ship's files.

If the repairs are effected in a foreign port, the report shall be handled in accordance with the provisions of Article No. 314.

Report Upon Completion of Repairs

(319) When all contract work on a vessel has been completed by an outside contractor, the Master and Chief Engineer shall sign a completion report upon request of the Repair Inspector on which shall be stated whether or not the work is satisfactory. If no Repair Inspector is present, this report is not required.

If any work has not been properly completed, the exact nature of each and every item which is not satisfactory shall be entered in detail on this form in the same manner as prescribed for such entries on the Requirements for Maintenance and Repairs of Vessels (Form No. S-4).

Drydocking

(320) When a vessel is drydocked the Master and Chief Engineer shall make a thorough inspection of the under body of the vessel. The Master shall carefully examine the under water plating and the Chief Engineer shall thoroughly inspect all outboard valves, the propellers, the shaft tubes, struts, rudder and zinc plates. The Chief Engineer shall also take wedges to accurately measure the clearances of the shafts in the stern tubes. The Drydocking and Painting Report (Form No. S-202) shall be prepared and forwarded to the Manager.

Report of Damage to Propellor Blades

(321) When a propeller blade is damaged to an extent necessitating its renewal, a special letter shall be addressed to the Manager, giving the following information:

1. Description of damaged blade, giving the condition of the material as shown by the break; nature of damage to blade, that is, whether blade has been fractured, bent or studs sheared; also the location of the break, whether at the tip of the blade, root of blade or elsewhere.
2. Description of the blade to be used for replacements, stating whether it is of iron or bronze.
3. Kind of material other blades on wheel are made of.
4. If there are different kinds of blades (that is, iron or bronze) on wheel, whether like kinds are opposite.
5. Number and kind of spare blades remaining on board.

The damaged parts of blades shall be kept on board until removed by the Construction and Repair Division, or other instructions as to their disposition are received.

Repairs to Wireless Installation

(322) The Lessor Company is responsible for repairs to the radio equipment on vessels where the equipment is owned by the Lessor Company and, in such cases, the representative of the Lessor Company shall take full responsiblity for repairs but the work shall be supervised by

the Chief Engineer as the direct representative of the Construction and Repair Division. Notice of necessary repairs, in such cases, shall be given through the Agent or directly to the office of the Lessor Company as circumstances may require.

In case the apparatus is owned by this company, repairs shall be handled through the Construction and Repair Division, or the Company's Agent in the same manner that other repairs are accomplished.

Alterations (323) No alterations shall be undertaken with the ship's force, without first receiving the approval of the Construction and Repair Division.

It is the policy of the Company not to approve alterations which require the assistance of outside repair forces, except when such alterations are necessary to insure the safety of the vessel, the personnel or the machinery, or except when it can be clearly shown that such an alteration will effect a direct saving of money.

Therefore, when alterations are requested on Requirements for Repair & Maintenance of Vessels (Form No. S-4) a special letter shall be forwarded to the Manager of the Marine Department, stating fully the reasons for which the request is made and the results expected to be accomplished thereby.

Section II—Safety Regulations for Cleaning and Gas Freeing Tanks for Cargo or Repairs

General Precautions—Tank Cleaning (324) In order to prevent fires and injury to persons and property which may result when tanks are being cleaned or repaired, it is necessary to assure that tanks about to undergo repairs or cleaning, and under certain circumstances their adjacent compartments, are free of sediment and dangerous or explosive gases.

Safety of Personnel (325) Whenever tanks are cleaned or gas freed, the safety precautions specified in Articles No. 203, 205, 206 and 207 shall be strictly adhered to.

Delivering of Vessels to Ship Yards (326) In no case shall a vessel be delivered to a shipyard for repairs until all tanks are steamed, smothered and sealed, or until a Gas Free Certificate covering all tanks in the ship has been issued.

Emergency Drydocking (327) When emergency drydocking is necessary and no tank or pumproom repairs are contemplated, the tanks shall be smothered with steam and sealed prior to the vessel's arrival at the yard, and shall be so maintained until her departure therefrom. In case it is found necessary while at a repair yard to do any work in and/or around any of the tanks, the tanks in question shall be cleaned as outlined hereafter.

Periodical Overhaul Involving Tank Repairs

(328) When a vessel is to undergo periodical overhaul and repairs are necessary in and/or around cargo tanks, and/or fuel tanks which will not require the use of fire, the tanks in question shall be thoroughly cleaned by the process described hereafter, and must be passed by the Inspecting Chemist as being "Safe for Men, Not Safe for Fire" before any work is begun. This notation implies that the gas content in the tank is two-tenths of one per cent (.2%) or less and permits of such work as caulking, pipe fitting, etc.

Should it be necessary to weld, renew rivets or perform any similar work requiring the use of fire in a tank, not only the compartment in question, but all adjacent compartments shall be thoroughly cleaned until the gas content is two-tenths of one per cent (.2%) or less, and passed by the Inspecting Chemists as "Safe for Men and Fire" before any such repairs are instituted.

Gas Free Certificate

(329) A Gas Free Certificate (Form No. S-50) properly executed and signed in accordance with the directions contained thereon, shall be issued by an Inspecting Chemist to the Master before a vessel is delivered to a contractor or other person charged with making repairs.

If the inspection on which the Gas Free Certificate is based is made by an outside chemist the Master shall be responsible for the examination of the tanks as to cleanliness, and shall satisfy himself by personal inspection that the tank is free of sediment when the sample of air to be tested is taken by the chemist.

Entries on the Gas Free Certificate

(330) It will be noted that in describing the gaseous contents of tanks on the Gas Free Certificate only the notations "Safe for Men, not Safe for Fire," "Safe for Men and Fire" and "Not Safe," are permitted to appear, in order that no misunderstanding can occur. The notation "Not Safe" is used when oil or dangerous sediment is present in the tank, when leakage in the tanks is possible, or when the gas content of the air is greater than two-tenths of one per cent (.2%). Under these conditions men are permitted to enter the tanks only when equipped with life lines and gas masks, in accordance with the provisions of Article No. 203, 205, 206 and 207.

Disposition of Gas Free Certificate

(331) Two copies of the Gas Free Certificate shall be forwarded to the Manager. The original shall be retained aboard ship and an entry of its receipt made in the Rough Deck Log Book (Form No. S-132). Upon completion of repairs a statement shall be made upon the certificate to the effect that the work necessitating the cleaning of the tanks has been accomplished, and the original Gas Free Certificate shall then be forwarded to the Manager.

Chemical Analysis of Air in Tanks (332) All samples of air in tanks shall be collected either by displacement of water or by means of vacuum tubes, and shall thereupon be analyzed for dangerous and/or explosive gases by the Inspecting Chemist. The analysis of air from tanks shall be performed by the methods outlined in the pamphlet Procedure and Safety Regulations for the Systematic Cleaning and Gas Freeing of Oil Tank Steamers (Form No. 184).

Section III—Method of Cleaning and Gas Freeing Tanks

General Method of Cleaning and Gas Freeing Tanks (333) The cleaning of tanks shall be effected by steaming, ventilating, washing down, pumping dry and wiping up, followed by final inspection to assure that all oil and sediment are removed. The necessary intensity and duration of each process varies according to the condition of the tanks and the nature of the previous cargo carried therein and must rest upon the judgment of the officer in charge.

Steaming Tanks (334) A survey of the tanks shall first be made to determine the approximate time required for steaming. Thereupon the hatch cover and ullage hole shall be closed, but left unfastened and steam at a line pressure of about 75 pounds shall be allowed to enter the tank through the smothering line for the period of time considered necessary under the condition revealed by the inspection.

Ventilating Tanks (335) Upon completion of steaming, the hatch cover shall be thrown open and a windsail rigged into the tank for the purpose of creating air circulation within, thus expelling gases and steam. On a still day or when the gas content of the air in the tank is unusually high, additional air may be forced into the tank by a portable blower and a canvas duct.

Washing Down (336) When windsails and blowers have been rigged, the process of washing down shall be carried on by means of hose connected to a hot water line on which a pressure of not less than 65 pounds per square inch shall be maintained. As the tank gradually cools and the amount of gas decreases, the washing operation shall be extended from the top of the tank to the sides and beams, and finally when this has been done the bottom shall be thoroughly flushed. The latter operation shall be so conducted that oil and sediment remaining in the tank will be washed toward the cargo suction valves to facilitate removal by the cargo pumps. If, after this procedure, sediment still remains clinging to the bulkheads or structural members in the tank, a second steaming period shall be resorted to and the washing operation repeated.

Hot water for the purpose of washing tanks may be conveniently obtained by the use of a Y connection whereby steam is introduced into a nozzle on the fire line.

Wiping Up (337) When the tanks have been thoroughly washed they shall be wiped thoroughly dry by means of buckets, brushes, scoops and rags. Special care shall be exercised to flush adjacent pipe lines, and all suction and discharge valves shall be kept open up to the master valve on each side of the tank in question. This arrangement of valves shall be in effect at the time the Inspecting Chemist makes his examinations and collects the air samples. The windsails and blowers shall be removed one hour before the sample of air is taken by the chemist.

Use of Wash Oil (338) Under no circumstances, and when it is desired to clean a vessel which has carried dirty oil for the purpose of making such vessel suitable for the transportation of clean and refined products, it is necessary to augment the procedure described above by circulating wash oil throughout the tanks of the vessel.

When this procedure is necessitated, the tanks shall first be thoroughly cleaned, after the manner described above, and one compartment shall be filled with wash oil, which consists usually of kerosene, and which shall be allowed to remain in the tank for such period as is considered necessary for the purpose of thoroughly dissolving all traces of oil or sediment which may have remained clinging to the bulkheads and structural members in the tank after the cleaning operation. To expedite the action of the wash oil, its temperature may be brought by the use of the steam coils in the tank to approximately 110° F. and it may also be agitated and circulated by the injection of steam jets into the oil itself.

When the wash oil has remained in the tank into which it was first introduced for a period of time sufficient to accomplish its object (which under ordinary circumstances requires from four to eight hours) it shall be circulated by means of the cargo pumps into a second compartment, there permitted to remain until that compartment is thoroughly treated and so on until all of the vessel's tanks, cargo lines and valves shall have been thoroughly washed.

The wash oil shall thereupon be pumped ashore and the tanks steamed, washed down and wiped thoroughly dry as before.

Chapter VI

CORRESPONDENCE, COMMUNICATION AND SHIP'S RECORDS

Section I—Correspondence

Master's Responsibility for Correspondence, Communication and Records

(339) The Master shall be personally responsible for all official correspondence addressed to or originating from the vessel. It shall be his duty to assure himself that all forms and ship's documents specified hereinafter are properly prepared and promptly forwarded to the Manager when due. The First Mate, Chief Engineer, Steward and Radio Operator are responsible, subject to the supervision of the Master, for the proper preparation of such forms and reports as pertain to the activities of their respective departments.

All Correspondence Addressed to the Master or Chief Engineer

(340) All correspondence originating in the offices of the Marine Department and directed to a vessel will be addressed to the Master, or if the subject matter warrants, to the Chief Engineer, with copy to the Master.

Correspondence Addressed to the Marine Department

(341) All correspondence from a vessel to the Marine Department will originate with the Master or Chief Engineer, shall be addressed to the Manager, but when not for his personal attention, marked for the attention of the Division Superintendent having jurisdiction over the subject matter of the correspondence in question.

The Chief Engineer shall furnish the Master with a carbon copy of all correspondence addressed by him to the Marine Department.

Ship's Files

(342) Masters and Chief Engineers shall maintain files in which shall be retained all incoming correspondence and copies of all outgoing correspondence. The Master's files shall contain all correspondence relating to the Deck Department and the Steward's Department. The Chief Engineer's files shall contain all correspondence relating to the Engine Department.

These files shall be kept in properly marked folders, in a neat and orderly manner, so that a relieving Master or Chief Engineer may readily locate any correspondence.

Use of Filing Symbols

(343) Whenever correspondence is addressed to the Manager in reply to correspondence received from that source, the filing symbol of the original communication shall be included in the reply.

Section II—Radio Communication

Intelligibility, Conciseness and Brevity

(344) All radiograms shall be written in plain language and not in code or cipher of any kind, i. e., they shall be composed of words, figures and letters which offer an intelligible meaning, except as otherwise provided hereafter. In the interest of accuracy and economy, all radio messages shall be prepared in concise form and in such a way as to permit of no double interpretation. All radio communications shall be as brief as it is compatible with the foregoing stipulations.

Transmission of Numbers

(345) In order to avoid error in transmission, all numbers shall be written and transmitted as written words, and not by the use of symbols representing the individual figures.

Designation of Time

(346) Standard time, irrespective of daylight saving schedules, shall be used in all radio communications, that is, the time of sending shall be indicated in the standard time for the zone in which the vessel is located, and notices of arrival shall designate the hour of arrival in the standard time of the port to which the message is directed.

The time and date of acceptance of all messages (by the Radio Operator) shall be written on the message copy and transmitted in the preamble of the message without charge. It will, therefore, be unnecessary to include this information in the body of the message, except when the latter includes a statement of the vessel's position other than the daily noon position (TR) report.

When the time of sending or arrival is to be included in the body of the message, the day of the month and the hour shall be recorded numerically in the order named, the hour being indicated by numbers ranging from zero at midnight to 23 at 11 P. M. Thus, if a message giving the vessel's position was filed at 3 A. M. on the 16th day of the month, the time of filing would be designated "Sixteen Three," and, if at 6 P. M. on the 1st day of the month "One Eighteen."

Address

(347) The radio addresses of this Company and its Agents in the United States and the ports of Panama and Mexico have been standardized by the registry of the word "Stanship" in conjunction with the name of the port, and all radiograms to these ports shall be addressed simply "Stanship Baton Rouge," "Stanship Tampico," or as the circumstances require.

All radio communications directed from a vessel to ports at which the word "STANSHIP" is not registered, shall be addressed to the Agents, a list of which, corrected from time to time, will be supplied to each vessel with the circular letters on port information.

For the Master's information and guidance, there follows below the Signal Letters and Radio Call Letters of the vessels of the Fleet.

Steamer	*Signal Letter*	*Radio Call*
A. C. Bedford	L J Q M	K N Z
Baltic	H G F C	D T B
Benjamin Brewster	L H B N	K P S
Caddo	L F B T	K S K
Charles Pratt	L F S R	K S Q
E. T. Bedford	M C S Q	K D S B
F. Q. Barstow	L G T Q	K N Q
Fred W. Weller	L J K P	K N Y
Gedania	H G D T	D G A
Geo. H. Jones	L S F H	K I P S
Glenpool	L F K R	K O H
H. H. Rogers	L G B H	K S I
H. M. Flagler	L K V T	K E R
Hera	R S J G	K D G A
J. A. Bostwick	L M F Q	K J N
J. A. Moffett, Jr.	M D B S	K D T U
James McGee	L G S P	K T P
John D. Archbold	M D F B	K D U M
John Worthington	M C G N	K D M N
Joseph Seep	M B T P	K D J V
L. J. Drake	L N C Q	W Z A A
Livingston Roe	M C K H	K D O D
Loki	R S V C (German)	K D G D
M. F. Elliott	M C J N	K D N K
Niobe	R V W C	K D G B
O. T. Waring	L M N R	K J W
Pawnee	R T S K	K D G C
Phoebus	R D M Q	D P F
Pioneer	L F D C	K I G
Polarine	L F D H	K O I
Princeton	L F B P	K S T

Steamer	*Signal Letter*	*Radio Call*
Prometheus	R D T P	Y T A
S. B. Hunt	L S F J	K I P R
Standard	L F J H	K I C
T. J. Williams	M D F J	K D U R
Thomas H. Wheeler	M C K Q	K D O R
Vistula	H G F D	D T V
Walter Jennings	M C L S	K D P L
W. H. Libby	M C G Q	K D M P
W. H. Tilford	L J K W	K P D
W. J. Hanna	M B W T	K D K X
Wotan	R S W M	K D G E
Wm. G. Warden	L G Q F	K N F
Wm. Rockefeller	M D G F	K D V I
W. C. Teagle	L H K R	K T Y
Zoppot	H G D S	D T Z
Barges		
Standtow No. 1	L G J F	K P O

Name of Sending Vessel

(348) All radiograms addressed by a vessel to a shore station shall include, as the first word thereof, the name of the sending vessel. In this connection it will be noted that with the exception of the SS. "A. C. Bedford" and SS. "E. T. Bedford," it is unnecessary to include the initials of a ship's name in the message, for the reason that the names of all other vessels of the fleet are distinctive without their initials.

Timing of Messages

(349) When, in accordance with Article 346, the time of filing is to be included in the body of the message, the designating numbers shall appear immediately after the name of the sending vessel.

Statement of Position

(350) The position of a vessel shall be indicated in radiograms by the word "NORTH" or "SOUTH" followed by the latitude in degrees and minutes and the word "EAST" or "WEST" followed by the longitude similarly expressed. All words and numbers shall be written in full thus, latitude N 48° 58′ shall be expressed "NORTH FORTYEIGHT FIFTYEIGHT" and longitude W 68° 40′, "WEST SIXTYEIGHT FORTY."

Signature

(351) All official radio communications from a vessel of the fleet shall be signed by the surname of the Master.

Confirmation and Recapitulation

(352) A completely prepared Record of Radio Messages (Form No. S-173), showing all radio messages sent and re-

ceived by a vessel shall be forwarded to the Manager at the end of each sea passage, together with one confirming copy of each message so enumerated.

Acknowledgment of Messages (353) All wireless messages received by a vessel which require an answer or specifically request acnowledgment shall be acknowledged as promptly as possible by radio.

Personal Messages (354) Personal messages shall be sent only upon payment of tolls to the Master for transmittal to the Radio Operator for further transmittal to the Lessor Company.

Noon (TR) Reports (355) Noon position or TR reports are required by International Law when approaching the coast. The Master shall, therefore, file a TR report at 10:00 A. M. daily, which will indicate the vessel's anticipated noon position and be addressed to the nearest coastal radio station for transmission as a "Master's Service" message. TR reports shall not be addressed to the Manager.

Reports from Vessels off Schedule (356) Vessels, which have lost or gained twelve hours or more on their scheduled running time as indicated in the sailing letter, shall report their positions by radio to the Manager, stating the number of hours which have been lost or gained, the reason therefor, and, where time has been lost, the probability of further delay.

Other Reports by Radio (357) In addition to the radio reports specified above the Master shall assure that the reports required by Articles 47 and 217 are promptly transmitted when circumstances require.

General Radio Call (358) The Company has been assigned the general radio call of "KSOC," which is to be used exclusively for intercommunication between vessels when, for example, it is desired to transmit a general message from a vessel to any other vessel or vessels of the fleet, which might be within range and whose identity remains unknown to the sending vessel.

In no case shall the general radio call be used in transmitting commercial traffic through shore stations.

Section III—Land Wire and Cable Communication

Conformance With Radio Communications (359) In general, all telegrams and cablegrams directed from a vessel to the Marine Department or its agents will conform, insofar as is applicable, to the regulations governing the transmission of radio communications.

Address of Cablegrams

(360) All cablegrams shall be addressed in a manner similar to that outlined under radio communications, with particular reference to the registered word for address.

Address of Telegrams

(361) All telegrams directed to New York shall be addressed to R. L. Hague, 26 Broadway, and those directed to outports, to the Agents at addresses indicated in the Agent List.

Name of Vessel in Telegrams and Cables

(362) All cablegrams and land wires shall include as the first word of the message the name of the sending vessel.

Signature of Telegrams and Cables

(363) All cablegrams and land wires shall be signed by the surname of the Master.

Confirmation of Telegrams and Cables

(364) All cablegrams and land wires shall be confirmed in writing.

Section IV—Ship's Forms

Tabulation of Forms

(365) For ready reference there follows below a complete list of all Marine Department and Government forms which pertain to the administration of the various departments of the vessel. Many of these forms are self-explanatory, but there is included in this tabulation a reference column under which is indicated the Article of these regulations in which the use of the corresponding form is mentioned.

(a) Upon completion of each sea voyage, the following forms shall be prepared and forwarded promptly to the Manager.

Form No.	*Name of Form*	*Reference*
S-49	Engineer's Abstract of Log	Art. 126, 242
S-352	Engineer's Abstract of Log (Motor Ship)	Art. 126, 242
S-56	Abstract of Deck Log	Art. 242
S-42	Notice of Readiness	Art. 262
S-61	Port Log	Art. 79, 242, 276, 283
S-106	Indicator Cards	Art. 96

(b) Upon completion of each loaded sea voyage or monthly, when so specified in the form, the following forms shall be prepared and forwarded promptly to the Manager.

Form No.	*Name of Form*	*Reference*
S-132	Deck Log Book (Smooth)	Art. 68, 206, 212, 217, 243
S-126	Engineer's Log Book (Recip. Engines—Smooth)	Art. 121, 125, 243
S-236	Engineer's Log Book (Turbine—Smooth)	Art. 121, 125, 243
S-237	Engineer's Log Book (Motorship—Smooth)	Art. 121, 125, 243
S-173	Record of Radio Messages	Art. 352
S-290	Daily Report of Refrigerator Temperatures	Art. 115

(c) At all pay-off periods or whenever individual members of the crew are paid off, the following forms shall be prepared as required:

Form No.	*Name of Form*	*Reference*
None	Continuous Discharge Book	Art. 238
S-2	Payroll Sheet	
S-87	Alien Income Tax Collections	
S-116	Wage Payment Order and Receipt	
S-241	Certificate of Discharge (Coastwise)	Art. 238
Gov't.	Certificate of Discharge (Foreign)	Art. 238
S-40	Master's Report on Mates, Engineers and Other Members of the Crew for Conduct, Ability and Service (this form to be submitted every two months if pay-off periods occur at greater intervals)	Art. 16

(d) When a vessel requires storing, the following forms shall be prepared prior to the arrival in port:

Form No.	*Name of Form*	*Reference*
S-118	Requisition for Provisions and Inventory	Art. 145, 147, 176
S-219	Steward's Inventory of Sundry Stores and Equipment	Art. 145, 147, 152, 177
S-315	Requisition for Consumable Stores	
S-323	Requisition for Equipment	

(e) When a vessel is arriving at the port of New York, the following forms shall be prepared and submitted to an authorized representative of the Medical Department:

Form No.	*Name of Form*	*Reference*
S-362	Medical Log	Art. 11, 216
S-190	Inventory and Requisition for Medical Supplies	

(f) The following forms shall be prepared and forwarded to the Manager or made use of as required by these regulations or instructions on the form.

Form No.	*Name of Form*	*Reference*
S-198	Note of Protest	Art. 218
S-410	Detailed Report of Efficiency—Officers and Petty Officers (Deck Department)	Art. 16
S-423	Detailed Report of Efficiency Officers and Petty Officers (Engine Department)	Art. 16
S-231	Collision Report	Art. 217
14	Application for Employment	Art. 231
M-867	Passenger Release Form (mimeographed)	Art. 240
Gov't.	Master's Certificate of Service of Sick or Injured Seamen	
44U	Report of Personal Injury, Illness or Death	Art. 217
S-4	Requirements for Maintenance and Repairs of Vessel	Art. 315, 319, 323
S-202	Drydocking and Painting Report	Art. 320
S-317	Quarterly Report of Physical Condition and Spare Parts	Art. 85, 128
S-50	Gas Free Certificate	Art. 203, 205, 326, 327, 328
None	Lloyd's "No Cure No Pay" Salvage Contract	Art. 223
Wireless Lessor Company Form: Ships' "Station Report" (to be submitted at all ports where the Lessor Company maintains a service station)		Art. 180
Submarine Signal Company Ship Report of Signal Stations		Art. 33
S-165	Laundry List	Art. 168
S-334	Visitors' Meal Receipts	Art. 168

(g) The following forms shall be prepared and retained aboard ship subject to periodical inspection by authorized members of the Shore Staff. These records, however, shall be forwarded to the Manager upon request:

Form No.	*Name of Form*	*Reference*
S-251	Compass Observation Book	Art. 26, 27
S-259	Night Order Book	Art. 39, 63, 65
S-413	Engine Department Store Room Account Book	Art. 85
S-411	Deck Department Store Room Account Book	Art. 56
S-418	Chronometer Record Book	Art. 36
S-419	Deck Order Book	Art. 50, 72, 73, 268
S-420	Cargo Record Book	Art. 264, 283.
S-132	Deck Log Book (Rough)	Art. 39, 68, 71, 78, 216, 225, 331
S-126	Engineer's Log Book (Recip. Engines-Rough)	Art. 103, 125, 137, 141
S-236	Engineer's Log Book (Turbine—Rough)	Art. 103, 125, 137, 141
S-237	Engineer's Log Book (Motorship—Rough)	Art. 103, 125, 137, 141
S-417	Navigational Work Book	Art. 22

(h) The following forms shall be used or posted as required in the administration of the various departments of the vessel:

Form No.	*Name of Form*	*Reference*
S-425	Fire and Boat Station Bill	Art. 212
S-242	Ship Personnel Pass	
S-30	Chief Engineer's Daily Noon Report (to the Master)	Art. 129
S-31	Master's Daily Noon Report (to the Chief Engineer)	
S-65	"Marking of Valve Wheels" Chart	Art. 258
S-184	Procedure and Safety Regulations for the Systematic Cleaning and Gas Freeing of Oil Tank Steamers	Art. 332

Form No.	*Name of Form*	*Reference*
M-492	Combined Stock and Specification Book	Art. 56, 85, 256, 258
S-412	Deck Department Work Book	Art. 62, 277, 280, 315
S-414	Engine Department Work Book	Art. 86, 98, 315
S-415	Steward's Department Work Book	Art. 146, 315
33	Marine Department Regulations	Art. 251
Wireless Lessor Company Form	Radio Log	Art. 184
S-416	Artificial Respiration Placard	Art. 207
S-421	Bell Record Book	Art. 137
398	Standard List of Provisions	Art. 175
S-131	Poster: "Pollution of Waters in Harbors, Rivers and other Inland Waterways"	Art. 257
S-194	Safety Appliances—Record of Location and Inspection	Art. 197, 198, 199
S-13	Ship's Letterhead	
S-43	Envelope, large brown, addressed 26 Broadway	
S-59	Envelope, small brown, addressed 26 Broadway	
S-134	Steamer's Envelope, small	
S-149	Steamer's Envelope, medium	
S-238	Master's Report to the Manager, Enumerating enclosed Ship's Forms	
(Gov't.)	Forecastle Card.	

Section V—Miscellaneous Reports

Purpose of Special Reports

(366) Under certain conditions, either for the purpose of supplementing information required by some of the foregoing forms, or of advising in detail of the circumstances surrounding accidents, damage to machinery, cargo overflows, occurrences of a similar nature, written reports shall be prepared by the Master, or the Chief Engineer, copy to the Master, and forwarded promptly to the Manager. Such reports shall be full and complete, accompanied by written statements of those involved and shall describe in detail all facts as to cause and, if any, nature of damage. The omission of a single item of importance makes a thorough investigation impossible without further correspondence and interviews.

List of Written Reports

(367) The following list will indicate the subjects on which written reports shall be made to the Management in accordance with the foregoing paragraph:

Subject	*Reference*
Report of Accidents	Art. 217, 220
Report of Expense Incurred Through Accident	Art. 225
Report of Accidents to Personnel	Art. 217
Report of Damage to Machinery	Art. 172
Report of Damage to Propellor Blades	Art. 321
Report of Defective Cargo Pumping Equipment	Art. 279
Report of Completion of Repairs	Art. 318, 319
Report of Cargo Overflows	Art. 274
Report of Repairs in Foreign Ports	Art. 314
Report of Discrepancies in Fuel and Water	Art. 127
Report of Fuel Oil Complaints	Art. 122
Report of Bursting of Cargo Hose	Art. 274
Report of Test of Cargo Hose	Art. 273
Report of Misconduct	Art. 10, 193
Report on Port Information	Art. 252
Report of Master upon Joining a Ship	Art. 13
Report of Chief Engineer upon Joining a Ship	Art. 83
Report of Radio Operator upon Joining a Ship	Art. 183
Report of Higher License Obtained	Art. 227
Report of Inferior or Condemned Stores	Art. 169, 173
Report on Necessity of Alterations Requested	Art. 323

Section VI—Ship's Documents

Official Documents (368) There follows below a list of official documents, classification certificates, etc., which when secured through proper agencies, shall be retained aboard ship as necessary and it shall be the duty of the Master to assure himself that all of these documents are aboard his command:

Official Log (Gov't Form).
Certificate of United States Registry, or
Consolidated Enrollment and License for the Coasting Trade.
Certificate of United States Inspection.
Certificate of United States Admeasurement.
Panama Canal Certificate.

Suez Canal Certificate.
License for Ship's Radio Station.
Certificate of Seaworthiness
Certificate of Classification
Certificate of Classification of Machinery
Certificate of Classification of Boilers
Certificate for Anchors, Cables, Chains and Hawsers

} American Bureau, British Lloyds, Germanischer-Lloyds or Bureau Veritas

Documents Required by Customs and Health Authorities

(369) The following documents or forms are required by the Customs or Health Authorities of the United States and other countries and are listed below for the information and guidance of all Masters. It shall be the duty of the Master to familiarize himself with these documents, and he shall be held strictly accountable for the proper execution of such of them as may be required by Circular Letters or Customs and Health regulations for entering and clearing his vessel:

Form No.	*Name of Document*
S-182	Shipping Articles (Coastwise)
Gov't.	Shipping Articles (Foreign).
Gov't.	U. S. Bill of Health (From every foreign port)
Gov't.	Clearance
Gov't.	Official Crew List
Gov't.	Supplementary Crew List
Gov't.	List or Manifest of Aliens employed on Vessels
Gov't.	Consular Crew List (Foreign)
S-240	Spanish Crew List
254	Outward Foreign Manifest
169	Coasting Manifest
S-54	Inward Foreign Manifest (Water Ballast)
Gov't.	Consular Manifest
10	Mexican Consular Manifest
None	Mexican Consular Crew List
S-286	Contraband Declaration
Gov't.	Fumigation Certificate

Form No.	*Name of Document*
Gov't.	Statement of Master of Vessel Regarding changes in Crew Prior to Departure.
S-120	Store List, Deck Department (Spanish and English)
S-338	Store List, Engine Department (Spanish and English)
S-349	Store List, Cabin Department (Spanish and English)
Gov't.	Certificate of Payment of Tonnage Tax (U. S.)
	Consular Invoices
	Consignee's Mail
	Captain's Copy of the Bill of Lading
	Swedish Bill of Measurement and Lighthouse and Tonnage Dues Receipts.

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(REVISED JANUARY 1, 1925)

Form No. 33 A

PRINTED IN U.S.A., BY MONROE PRESS, N. Y.